DOCUMENT RESUME

ED 174 622 TM 007 363

AUTHOR Hoepfner, Ralph; And Others
TITLE National Priorities for Elementary Education. CSE Monograph Series in Evaluation. Volume 2.
INSTITUTION California Univ., Los Angeles. Center for the Study of Evaluation.
PUB DATE 73
NOTE 82p.

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Administrator Attitudes; *Educational Needs; *Educational Objectives; Elementary Education; *Elementary School Curriculum; Elementary School Teachers; Evaluation Methods; *National Surveys; *Needs Assessment; Parent Attitudes; Principals; Q Sort; *School Surveys; Taxonomy; Teacher Attitudes

ABSTRACT

This monograph presents the results of the field testing of the Elementary School Evaluation KIT: Needs Assessment. The KIT, which is designed to facilitate the determination of goal priorities for an elementary school, provides a school principal with a rationale and specific techniques and materials for conducting a needs assessment of his or her own school. The monograph is set forth in four chapters. Chapter 1 examines educational needs assessment and describes the approach used to establish needs and priorities. Chapter 2, which describes the rationale and development of the goal taxonomy, also discusses how these goals were rated by a national sample and the composition of the sample. Chapter 3 examines the findings of the national survey of priorities for elementary goals and discusses the areas of similarity and divergence among the distinct rating groups comprising the sample. Chapter 4 suggests some implications that emerged in terms of the methodology described and the findings it yielded. The sample is large, comprises several diverse rating groups, and has broad geographic and socioeconomic representation. The data suggest some national priorities for elementary education, and should interest those concerned with how such priorities are established and the form they assume.
(Author/RD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

CSE
MONOGRAPH
SERIES
IN
EVALUATION

2

NATIONAL PRIORITIES FOR ELEMENTARY EDUCATION

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Mark Young

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

TM007 363

CENTER FOR THE STUDY OF EVALUATION
UNIVERSITY OF CALIFORNIA • LOS ANGELES

CSE MONOGRAPH SERIES IN EVALUATION

EDITOR
Marvin C. Alkin

Editorial Reviewer for Volume 2
Richard Seligman

Center for the Study of Evaluation
145 Moore Hall
University of California, Los Angeles
Los Angeles, California 90024

NATIONAL PRIORITIES FOR ELEMENTARY EDUCATION

Ralph Hoepfner, Paul A. Bradley, and William J. Doherty

Center for the Study of Evaluation
University of California, Los Angeles, 1973

CSE MONOGRAPH SERIES IN EVALUATION

VOLUME

1. Domain-Referenced Curriculum Evaluation: A Technical Handbook and a Case Study from the MINNEMAST PROJECT

   Wells Hively, Graham Maxwell, George Rabehl, Donald Sension, and Stephen Lundin

2. National Priorities for Elementary Education

   Ralph Hoepfner, Paul A. Bradley, and William J. Doherty

TABLE OF CONTENTS

Foreword ix

Chapter I: The Nature of Educational Needs Assessment 1

How are Educational Needs Identified? 1
Who Determines a School's Needs 2

Independent method of goal setting
Institutional method of goal setting
Collective viewpoints method of goal setting
Goal setting under uncontrolled demands

How are a School's Needs Established? 5
Delimiting the Types of Needs 5
The Successive Screening of Needs 10

Chapter II: Determining the Nation's Priorities—Procedure 14

The Goal Taxonomy 14
The Comprehensive Vocabulary of Educational Goals 15-24
Method of Data Collection 24
Reasons for Collecting the Need Data 27

The national sample
The California sample

School Characteristics 30

Geographic region of school
School size
Population density by school
Racial-ethnic composition of school
Socio-economic status of school's neighborhood

Methods of Data Analysis 33

Statistical analysis

Chapter III: The Nation's Priorities—Findings 36

National Ratings of Goal Importance 36
Differences in Priorites among Principals, Teachers, and Parents 40

Goals rated higher by principals than by parents
Goals rated higher by parents than by principals
Goals rated highest by principals
Goals rated lowest by principals
Goals rated higher by teachers than by parents
Goals rated highest by teachers
Goals rated highest by parents
Goals rated lowest by parents

Differences in Priorities Observed Among Demographic Variables 48

The influence of geographic region on priorities
The influence of school size on priorities
The influence of population density on priorities
The influence of racial-ethnic composition on priorities

Chapter IV: Implications of the National Goal Ratings 63

Cautions in the Interpretation of Findings 64
Use of the Findings by Educators and Administrators 66
Implications of the Goal-Rating Methodology 68

References 71

LIST OF TABLES

1.1 Taxonomy of Goals of Elementary School Education 7-10
2.1 The Number of Schools in Each Geographic Group 30
2.2 Comparison of Sample and Census Geographic Distributions 30
2.3 The Number of Schools in Each School-Size Category 31
2.4 The Number of Schools in Each Population-Density Group 32
2.5 The Number of Schools in Each Racial-Ethnic Majority Group 32
2.6 The Number of Schools in Each Racial-Ethnic Composition Group 33
2.7 The Number of Schools in Each Socio-Economic Group 34
3.1 Elementary School Goals and their Rated Importance 36-39
3.2 Elementary School Goal Areas and their Rated Importance 39
3.3 Mean Ratings and Rankings of Mean Ratings of 106 Goals for Principals, Teachers, and Parents, and Analysis of Variance of Ratings among Groups of Raters 40-42
3.4 Mean Ratings of 41 Goals for Principals, Teachers, and Parents, and Analysis of Variance among Groups of Raters 43
3.5 Correlation of the Mean Ratings and Rankings for 106 Goals for Three Groups of Raters 48
3.6 Correlation of the Mean Ratings and Rankings for 41 Supergoals for Three Groups of Raters 48
3.7 Mean Ratings for 106 Goals for Three Groups of Raters 48
3.8 F-Ratios for Six Demographic Characteristics of 106 Educational Goals 49-51
3.9 F-Ratios for Six Demographic Characteristics of 41 Supergoals 51-52

3.10 Significant Differences in Goal Ratings by Geographic Region 53
3.11 Significant Differences in Goal Ratings by School Size 55
3.12 Significant Differences in Goal Ratings by Population Density 56-57
3.13 Significant Differences in Goal Ratings by Racial-Ethnic Composition 59
3.14 Significant Differences in Goal Ratings by Racial-Ethnic Composition 60
3.15 Significant Differences in Goal Ratings by Socio-Economic Status 61

FOREWORD

This monograph, the second in the CSE Monograph Series in Evaluation, presents the results of the field testing of the *CSE Elementary School Evaluation KIT: Needs Assessment*. The KIT, which is designed to facilitate the determination of goal priorities for an elementary school, provides a school principal with a rationale and the specific techniques and materials for conducting a needs assessment of his own school.

When the field test results of the KIT were analyzed it became apparent that some trends were suggested which had not been anticipated when the field-test design was established. What had emerged was an unexpected dividend in the sense that the data suggested a method to get at the national priorities for elementary education. Further, the data seemed to suggest what some of these national priorites might look like. In this light, while the field test results will be of value to those who were involved in the field test and will provide a descriptive and interpretive background to potential users of the KIT, it seems to us that the data have a potentially broader appeal. An examination of the field test results might also be of interest to those individuals and groups—educators, researchers, curriculum developers, and evaluators—concerned with the process of establishing priorities, and at a variety of different levels within the educational spectrum—local, state, and national.

The monograph is set forth in four chapters. Chapter I examines educational needs assessment and describes the CSE approach to establishing needs and priorities. Chapter II, which describes the rationale and development of the CSE goal taxonomy, also discusses how these goals were rated by a national sample and the composition of the sample. Chapter III examines the findings of the national survey of priorities for elementary goals and discusses the areas of similarity and divergence among the distinct rating groups comprising the sample. Chapter IV suggests some implications that emerged in terms of both the methodology described and the findings it yielded.

The analysis of the data from the field testing of the KIT provided some interesting insights not anticipated in the original scope of the field testing. Some of the implications that emerged are perhaps tentative, in the sense that the sample used in the field test was not chosen with the deliberate intention of ascertaining a set of national priorities. However, the sample is quite large, comprises several diverse rating groups, and has fairly broad geographic and socio-economic representation. In this light the data do suggest some national priorites for elementary education,

and should be of interest to those concerned with how such priorities are established and the form they assume.

Marvin C. Alkin
Los Angeles, California

Chapter I
THE NATURE OF EDUCATIONAL NEEDS ASSESSMENT

This chapter briefly looks at the genesis of needs assessment in education. Questions regarding who sets the needs, how they do it, and what kinds of needs might be set are investigated. The CSE approach to the determination of needs and priorities is then explained, as it forms the methodology by which the national priorities will be determined.

How Are Educational Needs Identified

Within the past decade the field of education has followed the military and business in adopting a systems approach to planning and evaluation. In each case, adoption of a systematic approach has been in response to demands for accountability—and in most instances, the accountability was financial in nature. Many voices were asking "What did you do with all the money?" The immediate response to such a question is the accountant's response: "Here's what we got and here's where it went." But the issues of future preparedness, investment in long-range markets and product development, and the values of different long-range and short-range goals complicated the accountant's answers and brought about the demand for more systematic consideration of the intangibles as well as the tangibles. The accountant's replies that mean grade-equivalents in reading rose by 11 months, four new chalkboards were installed, and teachers received an average of 6.51 hours of in-service (of unknown quality) were simply inadequate to answer the questions being asked.

The questions were widely varied in both form and content. They simultaneously challenged the emerging science and art of educational evaluation. From the federal and state funding sources came formal questions, not always clearly stated, about goal achievement not initially specified or, more commonly, completely overshadowed by the real political intents and goals of the programs. The messages were not always noticeably clearer when they came from the local community. The community compounded its questions of goal achievement with the issue of who sets the goals—who controls the curriculum. Local questions were not always formally phrased in the bureaucratic language of the educator, however. Parental rebellion and school turmoil and strikes were frequently the "media" employed.

Now, whoever demands the accountability most strongly, in the long run, controls the goals. This is further complicated by the intrusion of the funder (not always a different party)—he who pays the fiddler calls

the tune. So, at the same time the schools were receiving pressure from "above" to meet vague (at best) national goals in response to federally funded programs, they were also getting it from "below" to meet the more specific (and more obviously partisan) goals resulting from some sort of local control. Articulating these divergent pressures in one non-schizophrenic school or system was, and is, probably within the realm of possibility, if the goals can be comprehensibly formulated and established.

Historically, it was into this situation that the evaluator was called. The superintendent, principal, or project director stated the evaluator's job succinctly: "Show them that we've done a good job." The questions immediately occurring to the evaluators were "What job?" and "What does 'good' mean?" Essentially, the evaluator was asking the same questions that leaders in curriculum reform had been asking when they developed procedures for objectives-based instruction. If the evaluation of the educational programs was to meet the demands of the various pressure sources, the evaluation should be objectives-based, or at a more general level, goals-based.

The first job of the evaluator was to determine what the goals for the program were. It was at this juncture that the evaluator met his first crisis. In most cases, goals (to a lesser extent objectives) simply had not even been stated, much less established or elucidated. The real problem was how to determine the success of goal achievement without knowing the target goals. Three systematic procedures were developed to handle the problem of goal determination: (1) evaluators worked with educators to clarify their goals, based upon planning records and observations; (2) evaluators designed needs-assessment procedures to solve the problem at its root; and (3) evaluators designed so-called "goals-free evaluation" systems that would hopefully catch the implicit goals in a large net.

To most people, the second alternative appeared most satisfying. It called for some procedure whereby the goals of the school would be set and declared as the intended goals. Then the school's success in achieving those goals could be assessed. The major considerations to the needs-assessment approaches were *who* established the goals and *how* they were established.

Who Determines a School's Needs

The *who?* question of needs assessment has as many answers as there are potential sources of advice to the school. A major distinction within these sources of advice is whether or not the school has any control over them; that is, whether or not the principal can choose to accept or reject (or even hear) the advice. Three major types of needs-assessment approaches are discernible under the "controlled" methods: independent, institutional, and collective methods.

Independent method of goal setting. The most traditional and most immediately effective approach to determining a school's needs is for the

principal to make the determination independently, perhaps with informal consultation with others. The logic supporting this approach is that since the principal is the leader of his school he should know more about the varied needs of his school than any other individual.

Arguments against employing the independent approach are legion, and to most people, very compelling. First, the statement that the principal is the school's leader is a statement of definition, not of fact. The educational literature is replete with studies showing that principals themselves are painfully aware of their leadership shortcomings (see Becker, et al., 1971). They readily admit to the need for greater skills in curriculum leadership, interpersonal skills, and administrative skills. If these concerns are well founded, they cast considerable doubt on the principal's ability to set goals for the school.

Over and above the principal's abilities to set goals is the practical problem of whether they will be accepted by the people who will have the job of achieving them. Social psychologists and sociologists have long known that, while the authoritative approach to decision making is most effective in the short run, it is not effective in the long run; that is, in decision implementation. Any minor disagreement one has with an authoritative decision somehow gets blown up in importance so that, if not sabotaged, the decision at best is poorly acted upon. It is further generally true that people who have had some voice in making the decisions are also more motivated to implement them.

Institutional method of goal setting. In an effort to capitalize on the relationship between making and carrying out decisions, and also to capitalize on a broader base of professional expertise, many principals have included their staffs in the goals-setting process. The specific procedures employed for such an institutional enterprise are many; they range from complete staff meetings (including principal, faculty, support professionals, and maintenance staff) to forms of curriculum committees, small groups of faculty with specific subject-matter expertise or interests.

When the decisions are made by a broad base, we can expect the separate goals to be set with greater understanding of their implications—educational, philosophical, and political—and of the degree of achievement that is reasonable to expect. If, for example, a potential goal of second-grade reading instruction were "choral reading," the second-grade faculty could best judge the appropriateness of the goal according to its difficulty (and whether any of them would consider teaching it with any degree of enthusiasm). The intermediate teachers could offer advice on its potential relevance to later reading instruction. Finally, the custodian could advise on the acoustic effects such a course of instruction might have, and how they might be dealt with. These facets of decision making might well be expected to be outside the repertoire of the typical principal.

But there's a price to pay for every advantage one receives in this world. In the case of the advantages accruing from the institutional method, the concommitant price includes lengthy (and sometimes acrimonious)

debate within the staff, provision of free time for the staff to engage in the decision making, and the unpleasant prospect that the principal might have to be responsible for actions and goals he personally disfavors. It is probably true that, in most cases, the benefit of getting the goals effectively implemented will outweigh the attendant costs.

Collective-viewpoints method of goal setting. Neither of the two methods already discussed takes into account the possibility that elements of the community or the student body may wish to have a voice in setting the school's goals. Community involvement in educational goal setting is motivated by a combination of financial and political considerations. The community comprising the tax-paying base wishes to have some control over how its taxes are spent. It is conjecture, but the run of local school bond defeats that occurred during the late sixties and early seventies in many of the major school districts may well have been partly caused by the community's inability to penetrate the large bureaucracies of those districts in order to present their opinions on expenditures.

Bond defeats may be symptomatic of the financial concerns of the community, but the political concerns, also manifested in bond defeats, show up in far more striking ways. Political concerns are defined as those aspects of education which arouse public interests or passions to the extent that the public feel they must express those interests. To a greater degree than many people suppose, the values, goals, priorities, policies, and programs of American educational systems are being challenged on just such political grounds. In addition to the time-honored controversies over racial segregation, prayers in the school, federal aid, sex education, and public aid to parochial schools, new controversies are stirring over bussing plans, local control, and school funding inequalities.

Berlak (1970) has developed four criteria for determining whether a policy or program will raise public-policy issues. They are: (1) if the program in any way alters the power relationship between the citizen and the state (who has the power to determine if, when, or what you will pay?); (2) if the program affects a person's social status or social power (how should education be financed?); (3) if the program effects increases or decreases in social tensions (what will be the effects of sex education?); and (4) if the program effects changes in the self-concept or self-esteem of individuals (should history curricula give greater stress on Black history?).

Even the more curriculum-bound educational issues, previously well insulated from politics and controlled completely within the educational system, are under attack by an ever widening array of political pressure groups. The politicization of such issues as curriculum adoption, grading policies, and personnel assignment and promotion indicates that the decision maker's values are being brought into question.

The reason that the decision maker's values can be questioned by community and political pressure groups is that traditionally those values were

not adequately or convincingly presented to the public. Whenever a program is implemented that does not appear to be proper (for whatever reasons), the community questions what the real or underlying intents and goals of the decision maker are. Such mistrust of the underlying values can be most effectively approached by bringing the distrusters and their values into the decision-making process. The *CSE Elementary School Evaluation KIT: Needs Assessment* (Hoepfner, Bradley, Klein, & Aiken, 1973) is one of the more recent approaches to providing the principal with the resources that will enable him to tap (or co-opt) his community's opinions and values.

Goal setting under uncontrolled demands. The sources of advice to schools regarding their needs and objectives that are considered to be uncontrollable by the school are federal mandates, state requirements, and district-wide requirements. These demands, for all practical purposes, simply have to be lived with. The problem is not how to set these demands (unless they're so vaguely stated that they need explication before any sort of action can be implemented), but how to articulate them with the other demands placed upon the school, and then how to achieve their goals. It is of some consolation that implementation guides are frequently included along with the uncontrollable demands.

How are a School's Needs Established?

In the above discussion of who exerts pressures on the schools for setting needs, some mention was made of procedures and methodologies that have been employed. In the case of the independent method of goals setting, the primary concern of the principal is the reliability with which his judgments are made. For student achievement goals, the CSE KIT offers procedures and materials to enhance the reliability of those judgments. Methods that are employed in institutional goal setting for reaching priorities of goals are also presented in the KIT. The collective method of goal setting has many methodologies, ranging from the delphi technique (Adelson, et al., 1967) to interview sampling procedures. The KIT provides the materials and strategies for sampling from the community in a highly structured way. Instead of interviewing the community and then later synthesizing the results of the interviews, the synthesis is performed first by providing each community member solicited with a standard vocabulary to be used in setting goal priorites.

Delimiting the Types of Needs

The concerns of this monograph are delimited to a specific subset of what comprise national educational priorities. Because of the primary mission of the Center for the Study of Evaluation, attention was not directed toward such needs as those concerned with the physical plant (space, transportation, maintenance, special needs), personnel (teacher competences, promotions, in-service programs, support personnel), or

learning materials and conditions (curricular programs, classroom materials, classroom atmosphere), but was directed instead to a group of educational needs called "student outcomes."

These needs are all related to the students, and to the outcomes that the educational program may have upon the students. The needs under consideration, therefore, include academic achievements and affective, cognitive, and physical-psychomotor development. Since such needs are among the higher-level goals of education (other goals often being means to achieve the desired student outcomes), it was felt that setting priorities for these needs would have many implications for priorities in the other (physical plant, personnel, and learning materials and conditions) need areas.

As mentioned in the previous section, the student output goals (needs) were assembled into a standardized vocabulary so that individuals could attach various priorities to them (see Table 1.1). The vocabulary had to have the characteristics of exhaustiveness and comprehensibility. An exhaustive vocabulary is one which provides a taxonomy of student outputs that is complete; a list of all potential goals, excluding none. The problems in building such a taxonomy were two-fold. First, considerable effort had to be expended to ensure the taxonomy's inclusiveness. Thorough searches of most of the recent and not-too-recent literature were conducted to survey the whole range of actual and potential student output goals at the elementary level. The primary resources included state and district curriculum guides, curriculum research studies, collections of goals and objectives, and the school texts and support materials themselves. From these sources a great many low-level objectives were collected and recorded, and then grouped conceptually into higher-order goals (the complete taxonomic grouping into hierarchies of goals is documented in the *Elementary School Hierarchical Goals Charts:* CSE, 1970). The vocabulary was selected at the level of the taxonomy in which there were not too many minute and on-route goals, but not too few and too general goals either. Checks on the exhaustiveness of the taxonomy, utilizing the comments of several hundred principals and teachers, indicated potential missing goals of morals/ethics, homemaking, child care, typing, drama, and industrial arts. However, follow-up checks of the curriculum literature revealed no discussion of these goals for the elementary level, nor any indication that they were the beginnings of new curriculum movements. For these reasons the new goals were not appended to the original taxonomy.

Related to the problem of ensuring the taxonomy's inclusiveness was the avoidance of any form of exclusiveness. During the course of the construction of the taxonomy, all members of the goals team checked on one another so that no personally offensive or unacceptable goals (e.g., reduction of prejudices, self-control, familiarity with foreign governments,

religious belief and knowledge, sex education, acceptance of rules, respect for private property, cleanliness,—and one could find some group of citizens feeling strongly enough about each to precipitate a dispute over its acceptance) would be excluded. The procedure for determining the priorities would allow for the elimination of any of them by the constituency setting the priorities; the team did not have to perform censor duties.

The second major problem in the construction of the taxonomic vocabulary involved its comprehension level. The wording and the concepts of the goal statements and descriptors had to be kept to a comprehension level appropriate for the lowest educational level among the many constituent groups who would be involved in setting the priorities. This meant that in the construction of the goal statements, great care had to be exercised to avoid using educational jargon and scientific or technical words or concepts (see Barnes, 1972). At the same time the goal statements could not insult the professional educator or lose the specificity of present-day concepts (e.g., modern math) that do not enjoy universal familiarity.

With this exhaustive taxonomic vocabulary, CSE has developed the major component of a system for the constituent endorsement of goals as priorities.

Table 1.1: Taxonomy of Goals of Elementary School Education

AFFECTIVE

1. TEMPERAMENT: PERSONAL
   - A. Shyness-Boldness
   - B. Neuroticism-Adjustment
   - C. General Activity-Lethargy
2. TEMPERAMENT: SOCIAL
   - A. Dependence-Independence
   - B. Hostility-Friendliness
   - C. Socialization-Rebelliousness
3. ATTITUDES
   - A. School Orientation
   - B. Self Esteem
4. NEEDS AND INTERESTS
   - A. Need Achievement
   - B. Interest Areas

ARTS-CRAFTS

5. VALUING ARTS AND CRAFTS
   - A. Appreciation of Arts and Crafts
   - B. Involvement in Arts and Crafts
6. PRODUCING ARTS AND CRAFTS
   - A. Representational Skill in Arts and Crafts
   - B. Expressive Skill in Arts and Crafts
7. UNDERSTANDING ARTS AND CRAFTS
   - A. Arts and Crafts Comprehension
   - B. Developmental Understanding of Arts and Crafts

COGNITIVE

8. REASONING
   - A. Classificatory Reasoning
   - B. Relational-Implicational Reasoning
   - C. Systematic Reasoning
   - D. Spatial Reasoning

9. CREATIVITY
   - A. Creative Flexibility
   - B. Creative Fluency

10. MEMORY
   - A. Span and Serial Memory
   - B. Meaningful Memory
   - C. Spatial Memory

FOREIGN LANGUAGE

11. FOREIGN LANGUAGE SKILLS
   - A. Reading Comprehension of a Foreign Language
   - B. Oral Comprehension of a Foreign Language
   - C. Speaking Fluency in a Foreign Language
   - D. Writing Fluency in a Foreign Language

12. FOREIGN LANGUAGE ASSIMILATION
   - A. Cultural Insight through a Foreign Language
   - B. Interest in and Application of a Foreign Language

LANGUAGE ARTS

13. LANGUAGE CONSTRUCTION
   - A. Spelling
   - B. Punctuation
   - C. Capitalization
   - D. Grammar and Usage
   - E. Penmanship
   - F. Written Expression
   - G. Independent Application of Writing Skills

14. REFERENCE SKILLS
   - A. Use of Data Sources as Reference Skills
   - B. Summarizing Information for Reference

MATHEMATICS

15. ARITHMETIC CONCEPTS
   - A. Comprehension of Numbers and Sets in Mathematics
   - B. Comprehension of Positional Notation in Mathematics
   - C. Comprehension of Equations and Inequalities
   - D. Comprehension of Number Principles

16. ARITHMETIC OPERATIONS
   - A. Operations with Integers
   - B. Operations with Fractions
   - C. Operations with Decimals and Percents

17. MATHEMATICAL APPLICATIONS
   - A. Mathematical Problem Solving
   - B. Independent Application of Mathematical Skills

18. GEOMETRY
    A. Geometric Facility
    B. Geometric Vocabulary
19. MEASUREMENT
    A. Measurement Reading and Making
    B. Statistics

MUSIC

20. MUSIC APPRECIATION AND INTEREST
    A. Music Appreciation
    B. Music Interest and Enjoyment
21. MUSIC PERFORMANCE
    A. Singing
    B. Musical Instrument Playing
    C. Dance (Rhythmic Response)
22. MUSIC UNDERSTANDING
    A. Aural Identification of Music
    B. Music Knowledge

PHYSICAL EDUCATION–HEALTH–SAFETY

23. HEALTH AND SAFETY
    A. Practicing Health and Safety Principles
    B. Understanding Health and Safety Principles
    C. Sex Education
24. PHYSICAL SKILLS
    A. Muscle Control (Physical Education)
    B. Physical Development and Well-Being (Physical Education)
25. SPORTSMANSHIP
    A. Group Activity–Sportsmanship
    B. Interest in and Independent Participation in Sports and Games
26. PHYSICAL EDUCATION
    A. Understanding of Rules and Strategies of Sports and Games
    B. Knowledge of Physical Education Apparatus and Equipment

READING

27. ORAL-AURAL SKILLS
    A. Listening Reaction and Response
    B. Speaking
28. WORD RECOGNITION
    A. Phonetic Recognition
    B. Structural Recognition
29. READING MECHANICS
    A. Oral Reading
    B. Silent Reading Efficiency

30. READING COMPREHENSION
    - A. Recognition of Word Meanings
    - B. Understanding Ideational Complexes
    - C. Remembering Information Read

31. READING INTERPRETATION
    - A. Inference Making from Reading Selections
    - B. Recognition of Literary Devices
    - C. Critical Reading

32. READING APPRECIATION AND RESPONSE
    - A. Attitude toward Reading
    - B. Attitude and Behavior Modification from Reading
    - C. Familiarity with Standard Children's Literature

RELIGION

33. RELIGIOUS KNOWLEDGE
34. RELIGIOUS BELIEF

SCIENCE

35. SCIENTIFIC PROCESSES
    - A. Observation and Description in Science
    - B. Use of Numbers and Measures in Science
    - C. Classification and Generalization in Science
    - D. Hypothesis Formation in Science
    - E. Operational Definitions in Science
    - F. Experimentation in Science
    - G. Formulation of Generalized Conclusions in Science

36. SCIENTIFIC KNOWLEDGE
    - A. Knowledge of Scientific Facts and Terminology
    - B. The Nature and Purpose of Science

37. SCIENTIFIC APPROACH
    - A. Science Interest and Appreciation
    - B. Application of Scientific Methods to Everday Life

SOCIAL STUDIES

38. HISTORY AND CIVICS
    - A. Knowledge of History
    - B. Knowledge of Governments

39. GEOGRAPHY
    - A. Knowledge of Physical Geography
    - B. Knowledge of Socio-Economic Geography

40. SOCIOLOGY
    - A. Cultural Knowledge
    - B. Social Organization Knowledge

41. APPLICATION OF SOCIAL STUDIES
    - A. Research Skills in Social Studies
    - B. Citizenship
    - C. Interest in Social Studies

The Successive Screening of Needs

Before continuing with the development of the methodology that would

utilize the goal taxonomy in the setting of priorities, it would be well to indicate the way in which the obtained priority data can best be utilized by the evaluator or educational decision maker. Clearly, the priorities attached to educational goals cannot serve as the sole source of information for decision making. Knowledge of the fact that "Knowledge of Scientific Processes" is the most important goal for the fifth-grade students at a particular school, should not necessarily lead the principal and teachers into making drastic changes in the fifth-grade curriculum. Additional kinds of information that are needed to make good decisions include: (1) the students' present achievement level and the desired achievement level in the goal area; (2) the value of certain increases in achievement; and (3) the probability that the school could do anything to raise the relevant achievement level.

The *CSE Elementary School Evaluation KIT: Needs Assessment* approaches the problems of setting goal priorities in the order listed above; the first step, however, being the identification of which goals are consensually important. Determining the perceived importance of goals serves as the initial screening of goals; the first stage in a four-stage procedure.

The second stage, determining the students' actual and desired achievement levels, is no doubt equally important as the first. The "discrepancy" between the current achievement level and the level desired or expected often has served as the sole priority-setting information. Numerous problems attend the determination of discrepancy values that have not been adequately solved and that minimize the value of the "discrepancy approach" as the keystone of a school's needs assessment. These problems are: (1) What kind of measurement indicates student achievement?, and (2) How does one set the desired achievement level? The first question has been partially answered in many ways (Hoepfner, et al., 1970; Webb, Campbell, Schwartz, & Sechrest, 1966; Mehrens & Lehmann, 1969), but the answers have never been completely satisfying. The fact of the matter is that many goals and objectives of education are not addressed by measures of any sort. Among those that are addressed, the appraisal is frequently either spotty, inappropriate for the students, difficult to administer and interpret, or of questionable technical quality. These assessment shortcomings are, unfortunately, most frequently and glaringly encountered when one attempts to assess achievement in goal behaviors in other than the traditional academic areas. We do have tests, and some good ones, for word recognition, spelling, computation, penmanship, and historical knowledge. Where we are less blessed is in such areas as critical reading, self-concept, application of math principles, scientific process, and creative thinking.

So it would seem that the available measurement possibilities limit very greatly the value and general usability of the achievement-discrepancy approach. A program based solely upon discrepancy information is likely to be misdirected as well as trivial. The test evaluations (Hoepfner, et

al., 1970; 1971; 1972) and the CSE KIT (Hoepfner, et al., 1973) provide information that will enable the educational evaluator (whoever he may be) to minimize his being misdirected or trivial, should he resort to a discrepancy approach to his evaluation problems.

The measurement problems that confront the discrepancy evaluator in the initial assessment of student achievement are at least equaled by the problems of setting the desired level of achievement. The problem is basically how one realistically sets a level of behavior as the desired level. Clearly, one cannot expect all students to achieve mastery (or the ninety-ninth percentile) on the objective; but what level can one expect? The answer to this question depends upon many considerations—how much promise the program has; what the racial/socio-economic status of the students is; the qualities of the instructional staff and the physical plant; etc. The list goes on indefinitely. Even if someone knew all the variables that make a contribution to the achievement level that could be obtained, he would also have to know how to weigh and combine them in order to establish the desired level—and this only on the supposition that the maximum achievement level or the mean achievement level is the desired one.

On the assumption that expected achievement levels will not soon be determined empirically with any degree of accuracy, the authors of the CSE KIT developed an estimation procedure that indicates the *expected* achievement of classrooms and schools, based upon an actuarial approach to the problem. The KIT provides "differentiated school norms" which are projections of mean centile achievement levels for many goal areas, based upon estimations predicted by many of the school and student characteristics found to affect performance. It follows, then, that under the best of conditions discrepancies of actual achievement from desired achievement cannot be better than the discrepancies of achievements and estimated projections of the KIT. At worst, and what must be expected to be typical, the discrepancy information provides nothing that will enable the educator to reach any correct conclusions regarding his school's needs.

The third stage recommended by the CSE KIT in the screening of goals is the determination of the values of increases in achievement. This third consideration is included because improving achievement status in various goals will be differentially valued, depending upon the present achievement levels. The value of improving student performance is akin to a motivational factor of need. In general, the lower the achievement status, the greater is the need to improve student performance, other things being equal.

In order to consider the value aspects of increasing student achievement, the CSE KIT provides value estimates that are based upon "utility functions" generated from data obtained in a nationwide survey of principals.

The fourth, and last, consideration in the CSE KIT in the screening of goals for a systematic needs assessment is the probability that a given

achievement increment can be obtained. No matter how important a goal is, how low the current achievement status is, and how valuable an achievement improvement is, if there is little or no probability that any instructional program is available to raise the achievement level, the needs assessment evaluation should not highlight that goal for concentrated effort for the following year's instruction. This conclusion should not be interpreted as a sanction for the status quo, but it should serve as a warning to all but the most innovative and capable schools to "not put too many eggs into an already broken basket."

The CSE KIT provides probability estimates for each of the goal areas. The estimates were based upon a nationwide survey of curriculum experts and educators expressing interest in curriculum and instruction.

In this chapter we have seen that goals of elementary education are widely varied in their focus, their nature, and in how they are articulated and ordered in terms of priorities. This monograph has focused on one particular type of goal, student outcomes; one particular type of articulation, the CSE elementary level goals; and one particular method for setting goal priorities, the *CSE Elementary School Evaluation KIT: Needs Assessment* collective viewpoints approach. The nationwide needs assessment to be described in the next chapter was accomplished on the basis of the adopted approach.

DETERMINING THE NATION'S PRIORITIES–PROCEDURE

This chapter presents the rationale and development of the CSE goal taxonomy, along with the complete goal statements that were to be rated by a national sample. The composition of that sample and the procedures it employed in rating goals are then described. The data-analysis methods are then specified to enable the reader to more fully understand the nature of the findings reported in Chapter III.

The Goal Taxonomy

The procedure for the assessment of the nation's educational priorities entailed the development of a comprehensive vocabulary of educational goals. It would be a waste of valuable time and resources, and would offer little promise of return, for each person involved in setting priorities to review the relevant literature and write his own set of goals. CSE's vocabulary (outlined in Chapter I) was compiled from a wide variety of sources, including curriculum guides from different parts of the country, recently published elementary school textbooks, national and statewide evaluation studies, basic research studies of psychologists and educators, and reports from various research centers and laboratories. As might be anticipated, these important sources use different classification systems. The Center's vocabulary organization is not presented in terms of a single theoretical position, but is organized to allow for continued revision and expansion as education changes to meet new priorities.

There is nothing dogmatic about the goals in this vocabulary. There is no implicit intention that every school should strive to attain every goal. The vocabulary was compiled not with regard to personal philosophy as to what should be taught in the schools, but with the aim of being as comprehensive as possible. It will be up to the schools' decision makers to select those goals most appropriate for their schools. Some of the goals may be found unsuitable, even undesirable.

The goals were created to encompass a range of content suitable for grades one to six; for the grade level of the goals may vary from one location to another. Even within schools, pupils are often assigned to different classes according to ability. Moreover, curricula vary significantly across the country in terms of what is taught at different grade levels.

A compromise was made with regard to the specificity of the stated goals in the vocabulary. Very specific, operationally stated behavioral objectives have the advantage of being easily understood, defined, and

measured. Many feel, however, that they tend to be so specific that their usefulness is limited. Maintaining comprehensiveness at such a level of precision results in such an unwieldy list that most participants would find wading through it a highly discouraging prospect.

On the other hand, very generally stated goals are often vague. They are easily interpreted differently by different individuals. It is difficult, for example, to find measurement instruments to match them precisely. Few would deny that students "should have the abilities and skills necessary to engage in the process of science," but it is a rather useless statement unless further defined.

The goals and their descriptions appearing in the Comprehensive Vocabulary of Educational Goals represent a compromise between these two extremes. They are neither so general nor so specific as to be unworkable. The goals and their descriptions are presented as they were for the study reported herein. It should be noted that most of the goal statements have since been altered to a simpler language and a more straight forward presentation (the revised goal statements can be found in Hoepfner, et al., 1973). (See also, Barnes, 1972.)

The Comprehensive Vocabulary of Educational Goals

1A. Shyness-Boldness
Has a healthy balance between extreme shyness and boldness, extreme passiveness and dominance.

1B. Neuroticism-Adjustment
Faces reality. Is well adjusted. Is generally happy.

1C. General Activity-Lethargy
Has a healthy balance between excessive nervous or aimless activity and apathy or listlessness. Has healthy level of drive, curiosity, need for activity and need for play.

2A. Dependence-Independence
Is self-sufficient and self-responsible. Does not have an excessive need for acceptance, approval, security.

2B. Hostility-Friendliness
Is friendly, generous, helpful, good-natured, and interested in people. Avoids aggression, hostility, and bitterness.

2C. Socialization-Rebelliousness
Has a healthy balance between conformity, acceptance, obedience, rigidity, and non-conformity, criticism, and disrespect. Is open-minded and tolerant to new ideas, non-conformity in others. Respects public and private property, shares, cooperates, is respectful, and courteous.

3A. School Orientation
Has favorable attitude toward school, teachers, studying.

3B. Self Esteem
Has a healthy self-concept, self-confidence, self-security, and self-esteem.

4A. Need Achievement
Directs energy and thinking into productive channels. Desires to learn. Does his best. Is reasonably ambitious. Strives for excellence. Pursues goals in spite of frustrations.

4B. Interest Areas
Has a wide variety of interest in recreational activities, hobbies, school subjects.

5A. Appreciation of Arts and Crafts
Appreciates originality, many styles of art, good workmanship, and good design. Is aware of color, form, arrangement, and artistic factors in architecture, objects, and in the natural environment.

5B. Involvement in Arts and Crafts
Is interested in art. Responds emotionally to art. Enjoys self-expression through art. Engages in artistic endeavors in leisure time. Finds satisfaction and pride in creativity.

6A. Representational Skill in Arts and Crafts
Learns and uses a variety of artistic techniques (mixing colors, glazing clay works, drawing, painting, modeling, constructing, etc.) in order to represent reality.

6B. Expressive Skill in Arts and Crafts
Learns and uses a variety of artistic techniques (mixing colors, painting, collage, modeling, etc.) in order to portray feelings, moods, themes, and ideas. Freely expresses himself. Shows creativity in works produced.

7A. Arts and Crafts Comprehension
Judges artworks. Knows steps involved in making and constructing artistic and useful objects. Knows vocabulary, concepts, and media.

7B. Developmental Understanding of Arts and Crafts
Recognizes major artists and craftsmen and their works. Recognizes styles and periods of art. Understands major historical developments.

8A. Classificatory Reasoning
Organizes information, ideas, and things into classes or groups. Recognizes and produces additional members for classes. Uses a classification scheme consistently. Judges a classification scheme's adequacy and comprehensiveness.

8B. Relational-Implicational Reasoning
Recognizes and makes analogies, comparisons, and syllogisms. Solves problems, finds logical answers by making inferences.

8C. Systematic Reasoning
Produces and solves complex problems, and evaluates their solutions. Analyzes situations and deduces solutions.

8D. Spatial Reasoning
Has speed, acuity, and accuracy of visual perception. Visualizes what things would look like if changed in certain ways. Has good orientation.

9A. Creative Flexibility
Recognizes inconsistent reasoning. Recognizes that something is the same though it appears different. Reinterprets information. Finds many different ways to solve a problem and switches to another way when one doesn't work.

9B. Creative Fluency
Calls to mind much relevant information and many ideas when needed. Elaborates on ideas. Creates original information, art, invention, and ideas.

10A. Span and Serial Memory
Memorizes series, sequences, and lists by rote.

10B. Meaningful Memory
Remembers meaningful ideas, information; non-rote.

10C. Spatial Memory
Remembers what things looked like, how they were shaped.

11A. Reading Comprehension of a Foreign Language
Reads without translation into English.

11B. Oral Comprehension of a Foreign Language
Understands a foreign language as spoken by a fluent speaker.

11C. Speaking Fluency in a Foreign Language
Speaks in a manner acceptable and comprehensible to a native speaker. Expresses himself spontaneously in conversation, discussion, asking and answering questions. Speaks with good pronunciation, grammar and usage.

11D. Writing Fluency in a Foreign Language
Writes accurately and fluently without translating from English.

12A. Cultural Insight through a Foreign Language
Understands another culture. Accepts another culture due to the ability to think and communicate in the language of that culture. Has greater appreciation of literature and art.

12B. Interest in and Application of a Foreign Language
Participates in foreign language activities in class and independently (e.g., sees films and foreign language TV programs, listens to records and reads magazines or books in the foreign language).

13A. Spelling
Applies correct spelling to written work. Applies spelling rules, phonetic skills, syllabication, rules for forming plurals, and word study skills to spell new words.

13B. Punctuation
Correctly punctuates written work.

13C. Capitalization
Correctly capitalizes written work.

13D. Grammar and Usage
Knows and applies correct sentence structure to written work. Correctly uses parts of speech. Forms correct paragraphs; uses contractions and abbreviations correctly.

13E. Penmanship
Prints neatly, accurately, and legibly. Writes with ease, speed, accuracy, legibility, and neatness. Has good eye-hand coordination. Reduces writing to normal adult size.

13F. Written Expression
Communicates adequately in writing for social purposes (letters, invitations, etc.) Communicates adequately in writing for scholastic purposes (reports, compositions, etc.). Shows originality in writing. Organizes written work well (clearly, concisely, emphasizing main ideas). Increasingly improves style.

13G. Independent Application of Writing Skills
Appreciates the importance of good grammar to clear communication. Appreciates writing as a means of self-expression, as a creative endeavor, and as an important means of communication. Enjoys writing activities. Finds satisfaction in having written something well. Takes pride in turning in neat work.

14A. Use of Data Sources as Reference Skills
Alphabetizes correctly. Skillfully uses dictionaries, encyclopedias, and other reference materials to locate needed information. Skillfully uses parts of books (table of contents, footnotes, index, glossary, etc.). Skillfully uses the library. Uses different sources of information to research topics and check discrepancies. Evaluates sources for accuracy and appropriateness.

14B. Summarizing Information for Reference
Takes notes. Makes outlines. Writes summaries. Writes reports. Makes tables of contents. Makes bibliographies.

15A. Comprehension of Numbers and Sets in Mathematics
Understands number and numeral concepts, odd and even numbers, prime and composite numbers, factors, and factoring, number multiples, etc. Understands set notation, set membership, operations with sets, etc.

15B. Comprehension of Positional Notation in Mathematics
Understands place value, the decimal system of numeration, non-decimal systems of numeration (bases other than ten). Reads and writes numerals. Rounds whole numbers.

15C. Comprehension of Equations and Inequalities
Understands number sentences, reflexive, symmetric, and transitive properties, and positive and negative numbers. Uses formulas and solves simple equations.

15D. Comprehension of Number Principles
Understands commutative, associative, and distributive properties, closure, identities, properties of 0 and 1, and inverse operations.

16A. Operations with Integers
Adds, subtracts, multiplies, and divides whole numbers, checks answers and tests for divisibility.

16B. Operations with Fractions
Recognizes equivalent fractions, proper fractions, improper fractions, and mixed numbers. Expresses fractions in lowest

and higher terms. Adds, subtracts, multiplies, and divides fractions.

16C. Operations with Decimals and Percents
Reads and writes decimals and percents. Compares decimals and percents. Adds, subtracts, multiplies, and divides decimals and percents. Converts decimals and percents to fractions and vice versa. Finds decimal parts and percentages of numbers.

17A. Mathematical Problem Solving
Uses mathematical knowledge and skills (arithmetic, measurement and geometry) to solve common practical problems.

17B. Independent Application of Math Skills
Transfers math knowledge and skills to situations independent of school requirements. Becomes a skillful buyer. Uses math in games and hobbies. Appreciates the contribution of math to technological progress. Respects accuracy.

18A. Geometric Facility
Draws, constructs, and measures line segments, perpendiculars, angles, plane and solid figures. Finds areas, volumes, circumferences, and perimeters. Draws to scale.

18B. Geometric Vocabulary
Identifies points, lines, angles, plane figures, and solid figures. Understands symmetry, congruence, intersection, and other geometric concepts.

19A. Measurement Reading and Making
Understands the concepts of length, weight, time, area, volume, speed, the metric system, money, etc., the relationships between them, and how to measure them. Computes units of measure. Uses tools to make measurements.

19B. Statistics
Understands, interprets, and uses graphs and tables. Understands and computes averages and probabilities.

20A. Music Appreciation
Appreciates the beauty and creativity of music. Appreciates the role of music and the musician in society. Appreciates many types of music.

20B. Music Interest and Enjoyment
Enjoys musical activities. Pursues music activities in leisure time, finds music and dance satisfying means of self-expression. Feels an aesthetic and emotional response to the rhythm and mood of the music.

21A. Singing
Sings his part, stays on key, and keeps a tune. Has a good voice and clear diction.

21B. Musical Instrument Playing
Plays the simple classroom instruments effectively. Plays his part. Plays solo.

21C. Dance (Rhythmic Response)
Has poise, muscular control, coordination, and rhythm. Re-

sponds to the mood, beat, and rhythm of a selection through movement. Expresses himself freely through movement. Learns popular and folk dances.

22A. Aural Identification of Music
Identifies the mood, rhythm, and the harmonic and melodic characteristics of musical selections by listening. Identifies voice types, instruments, types of music, (folk, classical, etc.), major compositions and composers, and national or ethnic origins (e.g., spirituals) by listening.

22B. Music Knowledge
Understands major historical and national developments. Understands common terminology (e.g., chords, scale, key).

23A. Practicing Health and Safety Principles
Applies health and safety principles to daily life. Has good habits of personal hygiene. Gets adequate rest, sleep, and physical exercise. Wears proper clothing for the climate and the activity. Practices common sense safety in all activities and obeys traffic and safety rules. Has good eating habits.

23B. Understanding Health and Safety Principles
Knows about and understands health and safety: personal hygiene, physical fitness, mental health, drugs, structure and function of the body, communicable diseases, food and nutrition, safety and first aid.

23C. Sex Education
Understands growth in adolescence and maturity, parts and functions of the reproductive and endocrine systems, intercourse and conception, prenatal development, and birth. Understands the role of the family, sexual expression, the purposes and responsibilities of boy-girl relationships, and social attitudes about sex. Has healthy attitudes to all aspects of sex and identifies with his own sex.

24A. Muscle Control (Physical Education)
Has coordination, strength, endurance, vigor, flexibility, agility, balance, poise, manual dexterity, good eye-hand coordination, etc. Performs basic sport skills, such as: running, jumping, kicking, throwing, aiming, gymnastics, swimming, and individual and team sports and games.

24B. Physical Development and Well-Being (Physical Education)
Has a healthy body and physical well-being. Meets physical emergencies. Demonstrates good physical condition. Has efficient body movements.

25A. Group Activity-Sportsmanship
Is a good winner and a good loser. Develops initiative, leadership, and the ability to be a good follower. Obeys the rules of the game. Is emotionally involved in the activity (has team spirit).

25B. Interest in and Independent Participation in Sports and Games
Participates in a variety of physical activities independent of school requirements. Analyzes his performance and tries to improve it.

26A. Understanding Rules and Strategies of Sports and Games
Knows the vocabulary and concepts associated with sports and games. Understands the rules and directions of games and sports. Understands the strategies and objectives of games and sports. Understands his role as a team member.

26B. Knowledge of Physical Education Apparatus and Equipment
Knows how to use physical education equipment and apparatus. Uses equipment properly and safely.

27A. Listening Reaction and Response
Listens attentively to a speaker. Gains information through listening and remembers it. Follows the thoughts of others. Follows directions.

27B. Speaking
Participates in discussions. Relates stories, experiences, and events effectively. Summarizes information. Organizes information, thoughts, ideas, and feelings, to present them clearly and concisely without advance preparation. Uses correct grammar. Speaks fluently, distinctly, and with good pronunciation.

28A. Phonetic Recognition
Uses phonics as a reading tool. Identifies sounds. Sounds unfamiliar words that are phonetic.

28B. Structural Recognition
Recognizes roots, prefixes, suffixes, syllables, contractions, plurals, and similar letter configurations.

29A. Oral Reading
Reads aloud with correct intonation and pronunciation, clarity and fluency, feeling, expression, and comprehension.

29B. Silent Reading Efficiency
Reads at a reasonable rate for age and grade level. Adjusts reading speed to material and purpose. Reads rapidly.

30A. Recognition of Word Meanings
Has broad vocabulary. Recognizes word meanings through context. Recognizes word meanings through analysis of prefixes, suffixes, roots, and word origins. Recognizes synonyms, antonyms, and homonyms. Recognizes denotations and connotations of words.

30B. Understanding Ideational Complexes
Recognizes the main ideas and supporting details of reading selections. Paraphrases passages and ideas. Grasps the thought of work as a whole.

30C. Remembering Information Read
Recalls main ideas, supporting details, and events in their proper sequence.

31A. Inference Making from Reading Selections
Correctly interprets what is read. Sees implications, makes inferences, arrives at generalizations and conclusions. Interprets characters' actions; determines motives, infers character traits.

31B. Recognition of Literary Devices
Recognizes basic metaphors, themes, irony, symbolism, exaggeration, etc.

31C. Critical Reading
Analyzes and evaluates reading selections. Recognizes authors' points of view and purposes for writing. Analyzes and compares different points of view. Distinguishes one type of literature from another. Distinguishes fact from fiction. Recognizes persuasive devices, propaganda techniques, illogical thinking, discrepancies, and unstated assumptions. Distinguishes among fact, opinion, hypothesis, and value statements.

32A. Attitude Toward Reading
Appreciates the importance of reading to communication and as a source of pleasure. Appreciates the creativity of literature and its importance to understanding man. Reads various types of literature in leisure time for recreation and personal fulfillment.

32B. Attitude and Behavior Modification from Reading
Is selective in choice of reading materials. Reads newspapers and other sources of information. Independently turns to printed materials for specific information and as aids to study. Modifies behavior and attitudes as a result of insights gained through reading.

32C. Familiarity with Standard Children's Literature
Is acquainted with a variety of children's classics, authors, and works from many cultures and periods.

33. Religious Knowledge
Understands the doctrine and dogma, theory and rationale of his religion. Can logically defend his religion. Knows something about the world's major religions.

34. Religious Belief
Applies his religious beliefs to daily life. Participates in religious activities. Believes in his religion.

35A. Observation and Description in Science
Is more observant of his environment. Describes accurately what is observed in writing, orally, in tables, graphs, and charts. Describes results of experiments.

35B. Use of Numbers and Measures in Science
Applies mathematical and measurement knowledge and skills in scientific situations. Draws conclusions from computations and measurements.

35C. Classification and Generalization in Science
Classifies physical and biological things and systems and gives rationale for his classification. Makes simple generalizations based on classifications and observations.

35D. Hypothesis Formation in Science
Makes reasonable predictions from known information, observations, and/or experimentation. Formulates simple hypotheses by analyzing and synthesizing known information,

observation, and relevant experiments. Changes hypotheses in the light of new evidence. Thinks in terms of the possible explanations for what is observed; sees the relationship between cause and effect.

35E. Operational Definitions in Science
Formulates questions, definitions, and scientific problems in specific terms preparatory to devising a solution.

35F. Experimentation in Science
Proposes ways to test a hypothesis or a prediction. Plans a simple experimental design for problems and hypotheses, and carries them to completion.

35G. Formulation of Generalized Conclusions in Science
Analyzes and interprets experimental results, observations, and known information to arrive at generalizations, conclusions, scientific laws, and principles. Distinguishes relevant from irrelevant information. Finds evidence to verify or disprove a hypothesis or prediction. Determines the implications and possible consequences of experiments. Checks predictions and hypotheses to see if they are consistent with known scientific facts.

36A. Knowledge of Scientific Facts and Terminology
Has a basic knowledge and understanding of biological sciences, geology and geography, weather and atmosphere, astronomy, physical sciences, and of their vocabularies.

36B. The Nature and Purpose of Science
Understands the investigative nature of science. Understands the scientific method, the importance of measurement in science, and how scientific laws and theories are formulated. Knows about the history and development of science. Understands the relationship between scientific progress, technological achievement, and economic development.

37A. Science Interest and Appreciation
Appreciates the impact of science on our lives. Appreciates the creative nature of the scientist's work. Is concerned about and aware of man's responsibility for his environment. Is curious and inquisitive about science. Participates in science activities independent of school requirements.

37B. Application of Scientific Methods to Everyday Life
Applies scientific knowledge and skills to solve practical and personal problems independent of school requirements. Distinguishes between science and superstition and relies on the former. Desires experimental proof. Has a speculating attitude.

38A. Knowledge of History
Knows history vocabulary and concepts. Knows about important people, places, events, dates, and movements in history. Knows history of the state, United States, and world. Knows current affairs, the role of the U.S. today, contemporary problems and issues, and how the past influences present conditions.

38B. Knowledge of Governments
Understands the United States government; its origins, development, structure and functions. Knows the rights and freedoms granted by the Constitution. Understands the responsibilities of citizens. Recognizes important people in government. Is familiar with foreign governments. Understands political systems and philosophies.

39A. Knowledge of Physical Geography
Knows geographic vocabulary. Understands geographic concepts: distance, direction, location, longitude, latitude, hemisphere, equator. Understands variations in climate. Recognizes important natural sites (Grand Canyon, The Matterhorn, etc.).

39B. Knowledge of Socio-Economic Geography
Is familiar with natural resources, agricultural areas, and industrial areas. Understands production, processing, manufacture and marketing of food, clothing, natural resources. Understands the relationship between human and geographic conditions.

40A. Cultural Knowledge
Has knowledge of different cultures and peoples. Understands society's influence on our way of thinking and way of life.

40B. Social Organization
Understands how people and nations are interrelated and interdependent. Understands communication between communities, states, and nations. Knows about trade and transportation. Understands the development, structure, and functions of social groups: family, school, community, public works, and services.

41A. Research Skills in Social Studies
Uses reference materials, maps, globes, and encyclopedias. Uses the library, reading, writing, and problem-solving skills to research and write reports on social studies topics, issues, problems, current events, points of view, etc.

41B. Citizenship
Is concerned for the dignity, welfare, rights, and freedoms of every individual. Does not have prejudices. Accepts his role and responsibilities as a group member. Supports free and honest communication.

41C. Interest in Social Studies
Is interested in social studies. Participates in social studies activities.

Method of Data Collection

A card-sort method was developed to determine systematically what various groups (such as teachers and parents) feel is the relative importance among the 106 goals. In this technique (Hoepfner, et al., 1973) different groups rate each of the goals on a five-point scale of importance. The procedure lets the principal know how the people in the community,

as well as his teachers, feel about the school's goals so that he can take their opinions into consideration in making his decisions. The use of such data also will help the principal justify the selection of certain goals given the usually limited evaluation budget available. Questions concerning community involvement or educational and social relevance, of course, could also be addressed through use of this method.

In order to utilize the collective-viewpoints card-sort procedure, each school principal was supplied with a set of materials. Each set contained ten randomly shuffled decks of 106 reusable printed cards. Each card described one of the goals of elementary education. The goals differ in importance in the sense that one's school should devote more time, effort, and resources toward having the students achieve some of them than it should devote to others. Similarly, progress toward achieving the important goals should be monitored more frequently than progress toward others so as to ensure early detection of problem development in these critical areas. Information about the relative importance of these goals is necessary, therefore, in helping to plan both the school's educational programs and the procedures for evaluating them.

In order to gather this information, selected rating groups were to rate each goal in terms of what they consider its importance to be. In doing this task, the rater was not to consider the feasibility and/or practicality of measuring performance on a goal. In other words, judgments were to be made solely on how important a goal is in terms of the skills, knowledge, attitudes, and interests students should have. Some goals are, of course, more appropriate for some grades than they are for others. Ratings were to be made, therefore, on the basis of what goals should be attained at the end of a specified grade or series of grades. The data to be reported in this monograph were rated on the basis of what should be achieved by students by the end of the sixth grade. For this reason, many of the on-route goals that may be very important in the primary grades may not appear as very important in the results to be reported.

The following procedures and instructions were provided for each rater:

1. Each rater should be distributed the set of 106 printed blue cards and the five blue envelopes (into which the cards were rated).
2. Do not make any marks on the cards or envelopes.
3. Place the five envelopes in front of you from left to right as follows:
   1. Unimportant, Irrelevant
   2. Marginal Importance
   3. Average Importance
   4. Moderate Importance
   5. Most Important
4. Look through the whole set of 106 cards carefully to get an idea of the range of importance of the various goals. Now find

one goal for each of the five categories of importance. (The number on the back of each goal card should be ignored since it is used solely for clerical purposes in recording your judgments.)

5. Sort the remaining cards into these same five piles; however, be sure to put at least 5 cards in each pile. It is important that each goal be put in one and only one pile, and that every card should be placed in a pile.

   If you are not sure into which pile a goal should be placed, put it into the one in which you feel it comes closest. Do not spend a long time deciding in which pile a particular goal belongs. If you have difficulty in evaluating a goal, put it at the back of the pack and sort it last.

   There are no "right" or "wrong" answers in this task. Just rate the goals in terms of how important YOU think they are.

6. When you have sorted all the cards, check that you have put at least five cards in each pile. Then, put the cards into their envelopes. Do not seal the envelopes at this time.

Additional Goals

If you feel there are some important goals that were not included in the set of 106, print each new goal on a blank yellow card. Be sure to put only one goal on each yellow card.

Rate your new added goal(s) as you did the original set of 106. Do not count these new goals in determining whether you put at least five cards in each pile. Place each added goal in the appropriate envelope.

Returning Materials

1. Before returning materials please check that you have done the following:
   A. Put each card into one of the five envelopes.
   B. Put at least five cards in each envelope (not counting the cards you may have written yourself).
2. Please tuck in the flap on each envelope, but do not seal it.
3. Return all the materials to the principal (or his representative).

Distribution of the decks of goal cards was handled by the principal, who had received ten decks. It was his responsibility to have at least ten teachers and ten parents (not necessarily at the sixth-grade level) perform the goal ratings, but he was not limited to only these groups or to only ten raters per group. In a few instances, students, other community persons, or other school administrators were included in the rating process. When these various persons completed their rating, the blue envelopes (with rated goal cards inside) were returned to the principal who, in turn, tabulated the ratings and sent the summary results to CSE. The information that the principals returned to CSE was, first of all, separate tally sheets for each group of raters (including himself as a separate group), and then

for each group the frequency distribution of ratings for each of the 106 goals.

It is important to consider the groups of people that should be involved in making the ratings. Within a school district, if elementary school principals make the ratings, one would have information on the priorities as felt by the administrators of the district. Ratings made by the teachers might be expected to reflect more of the attitudes and knowledge gained from their daily classroom interactions. A comparison between goal priorities of principals and teachers might well indicate areas of lack of articulation regarding the school's goals. Uncovering such problem areas is, of course, the first step in the resolution of the problems.

With the growing concern of community involvement and social relevance in education, it was also considered wise to gain information on the opinions of parents, area citizens, or future employers as to how they value the educational goals. Sampling of the "outside" people will be most important because the results obtained will be greatly influenced by the raters sampled. While the principals were expected to know enough about their communities to select appropriate samples by themselves, they were urged to make every effort to obtain a representative sample of outside people (parents or citizens) who were expected to be concerned about their schools' goals. However, in the end, the selection of the parent sample was left to the discretion of each principal.

Reasons for Collecting the Need Data

From the point of view of accountability, any educational product released on a large scale and purporting to address a critical issue should be adequately, if not exhaustively, pretested to ensure that it will result in more good than harm. This is particularly the case when the issue being addressed has an (undeservedly) obscure nature, where the reader or user cannot be expected to muster knowledgeable criticism of the product himself due to his real or imagined limitations. When the product addresses the issue of educational evaluation, where inadequacies are acutely felt, such is truly the case.

During the first two years of development, the separate components (chapters) of the *CSE Elementary School Evaluation KIT: Needs Assessment* (Hoepfner, et al., 1973) were pilot tested with large groups of educators at various national meetings and more extensively with small groups of principals and superintendents throughout the state of California. The initial rounds of pilot testing resulted in an edition of the KIT that was deemed ready for major national field testing.

The field testing of the KIT was conducted as the last stage of the formal try-out of the product in order to determine its strengths and to remedy its weaknesses before it was made available to the educational public via a commercial publishing organization. The primary goal of the field test was to determine the usefulness and viability of the prototype

KIT in an environment that was not necessarily completely receptive, but was characteristic of the environment for which the KIT was intended. An additional goal was to measure the extent to which the KIT was implemented in the school and the cost of this implementation; and to estimate the effectiveness, endurance, and potential of the KIT in the school environment.

The specific objectives of field-test instruments used to collect data from the principals were: (1) to determine whether various procedures contained in the KIT had been implemented by the principal; (2) to determine any changes that had occurred in the following areas that could have resulted from the use of the KIT—(a) the attitude of the principal and his staff toward evaluation, (b) the methods used to make decisions relative to the instructional program of the school, (c) the understanding of the principal and his staff of the evaluation principles on which the KIT is based; and (3) to determine the subjective opinion of the principal and his staff toward the contents of the KIT.

Originally the field-testing plan envisioned a national representative sample that might to some degree slight representation of California, the state in which all of the initial pilot testings and trials were undertaken. However, due to the opportunity to utilize the California schools once again, and in a manner that would increase our knowledge about possible variations for the implementation of the KIT into schools, a separate sample of California schools was added to the planned national sample.

The national sample. Word of the availability of the KIT for field-test purposes was spread through several mechanisms. In 1970 Dr. Stephen Klein presented a summary of the plans for the KIT to a meeting of the National Association of Elementary School Principals. Many of the principals and superintendents in attendance subsequently wrote to express interest in learning more about the KIT or in becoming part of the field-testing program. These letters were responded to with the notification that interested schools and districts would be put on a list of schools to be considered in the national field testing. At the same time, *Evaluation Comment* and numerous technical research reports emanating from the Center referred to the KIT. These references brought additional interested responses which were handled in a similar manner. It is important to keep in mind that all of the schools and districts that maintained active interest in field-test participation, the majority of the population from which the national sample was chosen, voluntarily joined the field testing and had positive interest in it.

In the Fall of 1970 the schools and districts that had previously expressed interest were contacted with an offer to become a part of the field-test sample, if they qualified. The schools were to complete a questionnaire that would give the Center the information needed to gain representativeness for its sample. When the questionnaires were returned with most of the schools still expressing strong interest in participating in the field testing, it was noted that several geographic areas were not repre-

sented in the population. These areas were the south-eastern, the south-central, and the north-western regions of the country. In telephone calls and follow-up letters to sister U.S.O.E. regional laboratories, commitments to aid in the recruitment of additional applicants were made by Dr. L.D. Fish of the Northwest Regional Educational Laboratory, Dr. K.W. Tidwell of the Southeastern Educational Laboratory, and Dr. J.L. Olivero of the Southwestern Cooperative Educational Laboratory. In addition, similar requests were made of Dr. R.L. Bright at Baylor University and Dr. S.S. Youngerman, Jr., of the Boise, Idaho, School District. From these contacts, a number of schools and districts responded to help gain greater geographic representativeness.

The population of schools at this point in time numbered 108, with some heavy concentration in the Mid-Atlantic region and in Illinois. Final selection of the sample to 79 schools was then made on the basis of geographical area, racial-ethnic composition of students, and socio-economic level of school neighborhood. By the time the collective-viewpoints data were returned, this sample had been reduced to 44 schools.

The California sample. The California sample was arranged through the California Elementary School Administrators Association (now part of the Association of California School Administrators), through which much of the initial pilot testing had been arranged. Dr. Edward W. Beaubier, director of CESAA's Evaluation Project, proposed a statewide sample of schools that would be part of the Association's evaluation component. With the promise of several variations in novel approaches to the KIT's implementation, 103 schools in the state were added to the original field-testing sample.

For purposes of reporting upon national priorities of education, neither of the samples very well approximated a national sample, as one sample excluded the most populous state of the union and the other excluded all the remaining states. In order to create a more representative sample of the schools that were available, a representative number of California schools was added to the 44 selected schools that were outside of California and had returned goal priority data. The addition of 8 California schools would give that state a fairer representation according to population, and so 8 schools were selected from the California sample to be included in the national sample. The schools were not randomly selected from the California sample, however. Inspection of the 44 national schools indicated that there were shortages in the numbers of specific types of schools in terms of representation of the nation. Specifically, there was a shortage of schools located in urban areas, small cities, and in inner cores of larger cities. Schools with predominantly Black or Mexican-American student bodies, and schools in lower socio-economic areas were also under-represented. Therefore, the 8 California schools were selected primarily with the consideration of getting better representation of those demographic characteristics, even at the expense of more poorly representing the

state of California. The total representative national sample was therefore composed of 52 schools, from which there were 49 principal ratings, 47 teacher-group ratings, and 44 parent-group ratings.

School Characteristics

The Schools in the newly constituted national sample were characterized on five dimensions for purposes of finding relationships between school characteristics and goal priorities. Information on each school was obtained on a questionnaire completed by each principal when he applied for joining the field test. The questions in the application form are repeated in the following sections that describe the characteristics of the 52 schools.

Geographic region of school. Each school reported its address on the application form. The addresses and ZIP codes were used to form a five-category classification on geographic region. The categorization is basically a combination of U.S. census divisions, based on east-west differences and ignoring north-south differences, except on the east coast.

Table 2.1: The Number of Schools in Each Geographic Group

Geographic Region of School	Number of Schools
1. New England and Mid Atlantic (MA, RI, NH, ME, VT, CT, NJ, NY, PA)	12
2. South Atlantic (DE, DC, MD, VA, WV, NC, SC, GA, FL)	6
3. East Central (AL, TN, MS, KY, OH, IN, MI, WI, IL)	10
4. West Central (IA, MN, SD, ND, MO, KS, NE, LA, AR, OK, TX)	10
5. Pacific and Mountain (MT, CO, WY, ID, UT, AZ, NM, NV, HI, OR, CA, WA, AK)	14

Table 2.2 compares the regional percentages of the national sample with those of the 1970 U.S. census and with the 1970 U.S. elementary school enrollment (Barr, R.H., & Foster, B.J., 1971).

Table 2.2: Comparison of Sample and Census Geographic Distributions

Geographic Region	National Sample	1970 U.S. Census	1970 Enrollment
1. New England and Mid Atlantic	23.1%	24.1%	21.4%
2. South Atlantic	11.5%	15.1%	15.3%
3. East Central	19.2%	26.1%	26.5%
4. West Central	19.2%	17.5%	18.6%
5. Pacific and Mountain	26.9%	17.1%	18.2%

The table indicates that the sample has over-representation of the Pacific and Mountain states and under-representation of the East Central states. The inclusion of a good number of California schools and the inclusion of a number of schools in Boise, Idaho has led to the western over-representation. The sample's lack of exact correspondence to the nation's population characteristics limits the generality of reports of educational priority findings. But the purpose of this monograph is not to allow educators to draw implications for their individual schools.

School size. Approximate pupil enrollment (Sept., 1970) _____ .
The numbers supplied by the principals in the original field-test sample were tabulated and the frequency distribution was inspected for a small number of clusters of school sizes. Trichotomizing the distribution at 400 and 700 resulted in a clear clustering of schools. The school sizes and numbers of each type of school are presented in Table 2.3.

Table 2.3: The Number of Schools in Each School-Size Category

School Size	Number of Schools
1. Less than 400 students	16
2. 400 to 700 students	24
3. More than 700 students	12

The 1967-68 *Statistics of State School Systems* (Barr, R.H., & Scott, C.J., 1970) reports an average of 433.4 as the national average daily attendance in all schools, K-12. The state averages range from 93.8 to 775.1 and are distributed among the three categories, even though they are statewide averages.

Population density of school. Which of the following categories best describes the neighborhood served by your school?

_____ *a. rural area*
_____ *b. residential suburb*
_____ *c. industrial suburb*
_____ *d. small town (5,000 or less)*
_____ *e. city of 5,000 to 50,000*
_____ *f. residential area of a large city (50,000+)*
_____ *g. inner part of a large city (50,000+)*

Because several of the categories of neighborhood type were very poorly represented in the national sample, the categories were merged on a logical basis into four classes, as described in Table 2.4.

Table 2.4: The Number of Schools in Each Population-Density Group

Neighborhood Served by School	Number of Schools
1. Rural (a)	6
2. Residential suburb or residential area of a large city (b,c,f)	26
3. Small town or small city (d,e)	15
4. Inner part of a large city (g)	5

These data indicate that the second category is probably over-represented while the fourth category is under-represented.

Racial-ethnic composition of school. Racial-ethnic characteristics of student body (Approximate percentages):

(a) American Indian _____

(b) Mexican-American _____

(c) Negro _____

(d) Oriental _____

(e) Puerto Rican _____

(f) White _____

(g) Other (specify) _____

In order to transform the various percentages of each group into one variable representing a single meaningful continuum, the responses were coded as contrasts to the majority (white) of the population. Two coding methods were applied; the first as a percentage of increasing minorities and the second as majority vs. major minorities. The two coding systems are tabulated below.

Increasing minorities code:

Table 2.5: The Number of Schools in Each Racial-Ethnic Majority Group

Racial-Ethnic Composition of School	Number of Schools
1. 98% to 100% white	29
2. 91% to 97% white	7
3. 71% to 90% white	6
4. 0% to 70% white	10

Majority vs. Minorities code:

Table 2.6: The Number of Schools in Each Racial-Ethnic Composition Group

Majority vs. Minority Composition of School	Number of Schools
1. 90% or more white	36
2. 50% or more Mexican-American	6
3. 15% or more Black	10

The racial-ethnic characteristics of the schools in the sample do not appear grossly non-representative of the population, but accurate and current data for comparison are not available by school site.

Socio-economic status of school's neighborhood. About what percentage of the pupils served by the school fall into each of the categories listed in the chart below?

Occupational Category	*Percentage of students*
a. children of professionals and managers (doctors, lawyers, engineers, executives, etc.)	_____
b. children of white collar workers others than those in (a) above (proprietors, salesmen, clerks, etc.)	_____
c. children of skilled workers (electricians, carpenters, repairmen, factory workers, etc.)	_____
d. children of unskilled (laborers, janitors, dishwashers, etc.)	_____

The method adopted for transforming the responses was to look for modal percentages and then assign a value to the modal percentage for each school, with some consideration given to the dispersion of the percentages. The code assignment is listed below.

From the table, it appears that there is a slight over-representation of professionals among the schools in the sample. For comparison purposes among groups, however, such over-representation is not misleading.

Methods of Data Analysis

Before proceeding to a discussion of the analyses that were performed on the ratings of the goal areas by the groups within the schools, one other feature of the goals should be mentioned. While the KIT uses 106

Table 2.7: The Number of Schools in Each Socio-Economic Group

Socio-Economic Status of School's Neighborhood	Number of Schools
1. 60% or more professionals	8
2. 50% to 60% white collar; remainder equally professional and blue collar	5
3. about equally split professional, white collar, and blue collar	4
4. about equally white collar and blue collar	10
5. about equally white collar, blue collar, and unskilled	6
6. predominantly blue collar	4
7. equally blue collar and unskilled or predominantly unskilled	15

different educational goals to be sorted and rated by the constituents from the schools, these goals can logically be subordinated to 41 supergoal areas (see Table 1.1). The ratings for the 41 supergoals were arrived at by averaging the ratings of the goals that were subordinate to them. For example, the rating for supergoal 1 (Temperament: Personal) was determined by averaging the ratings of goals 1, 2, and 3 which compose it. The advantage of these parallel analyses is that a greater level of generality can be obtained with the results from the 41 supergoals while specific trends and differences can be found in the data provided by the 106 goals.

Statistical analysis. The data which were returned from the field test schools consisted of the mean ratings of the 106 goals by each person or group who was either a principal (who rated the goals twice), teacher sample, or parent sample. For each school, and for each group within the school, mean ratings were utilized. This resulted in three sets of average ratings on 106 goals for each school. Unfortunately, not all the schools had all three groups participate in the sorting and rating process. The final sample had average ratings from principals of 49 schools, average teacher ratings from 47 schools, and the average parent ratings from 44 schools.

Overall ratings of the importance of each of the goals were then computed by averaging all the mean ratings available. Mean ratings for each rater group (principals, teachers, and parents) were obtained by averaging the ratings from each group. Differences in ratings among the three rater groups were investigated by means of analyses of variance, one analysis for each goal. Although the Q-sort data are semi-ipsative (a rating on one goal very indirectly influences the ratings on other goals because of the enforced minimum number of goals that could be sorted into each category) the analysis-of-variance method was the only feasible analysis method with the power to uncover the significant priorities.

In addition to the goal ratings that the schools returned, the principal also filled out a short questionnaire that investigated the demographic characteristics of his school. The variables involved were: (1) geographic region of the school, (2) size of the school, i.e., number of students, (3) population density of the neighborhood the school served, (4) racial-ethnic composition of the student body, and (5) the socio-economic background of the parents. The purpose of acquiring this data was to investigate the possible differences in the priority ratings of the gro ,ps defined by the demographic variables. The particular vehicle employed to find these differences was once again analysis of variance. This time, however, the design was a two-way analysis of variance. One factor was the demographic variable under investigation, while the second factor was rater-group membership, i.e., principal, teacher, or parent. In this way the effects of differences among groups would be removed from differences arising from the demographic variables. The ratings for both the 41 and 106 goals were analyzed in this fashion.

Whenever F-ratios were significant in any of the analyses, attention was directed to the causes of the significant differences. Sub-group means were inspected, without any *post-hoc* statistical tests, and the observed differences in subgroup means were interpreted.

This chapter deals with the findings of the nationwide survey of priorities for elementary school goals. We will first look at the overall findings: What the nation, as a whole, thinks the important educational goals are. Since the rating sample was made up of principals, teachers, and parents, the second section of this chapter will look more closely at the similarities and differences among these three groups of raters. In the remaining sections of this chapter we shall investigate how the goal ratings are related to rater characteristics of geographic region, school size, population density of neighborhood, racial-ethnic composition of school, and socio-economic status of the neighborhood in which the school is situated. How each of these characteristics was measured in the sample and how these measurements were treated has been discussed in the previous chapter.

National Ratings of Goal Importance

The ratings were averaged over all raters for a total index of perceived importance of the goal areas. These indexes for the 106 goals are reported in Table 3.1, in rank order of the average ratings, and more grossly summarized in Table 3.2 for 12 major curricular areas (see Table 1.1). From Table 3.1, it can be seen that the top ten goals in terms of perceived importance are mostly in the affective area. What these findings mean is subject to many inconsistent interpretations. Is education achieving academic goals so well that new frontiers of an affective nature are needed? Are parents reneging on their traditional responsibilities to aid in affective development and insisting that schools do the work? Are teachers and administrators more interested in having behaving students rather than smart ones? Or has the Age of Aquarius dawned, with its presumed increase in social and personal consciousness?

Table 3.1: Elementary School Goals and Their Rated Importance

Goal	Rating
Self Esteem	4.67
Citizenship	4.61
Socialization-Rebelliousness	4.53
Need Achievement	4.52
School Orientation	4.48

Table 3.1 (Continued)

Goal	Rating
Neuroticism-Adjustment	4.46
Listening Reaction and Response	4.45
Attitude toward Reading	4.41
Silent Reading Efficiency	4.36
Dependence-Independence	4.29
Hostility-Friendliness	4.26
Operations with Integers	4.25
Group Activity—Sportsmanship	4.21
Phonetic Recognition	4.21
Speaking	4.19
Remembering Information Read	4.19
Practicing Health and Safety Principles	4.18
Recognition of Word Meanings	4.15
Use of Data Sources as Reference Skills	4.12
Mathematical Problem Solving	4.12
Spelling	4.10
Meaningful Memory	4.09
Independent Application of Writing Skills	4.07
Inference Making from Reading Selections	4.07
Creative Flexibility	4.06
Written Expression	4.04
Understanding Health and Safety Principles	4.04
Attitude and Behavior Modification from Reading	4.04
General Activity—Lethargy	4.03
Grammar and Usage	4.03
Research Skills in Social Studies	4.01
Understanding of Ideational Complexes	3.99
Comprehension of Numbers and Sets in Mathematics	3.93
Independent Application of Mathematical Skills	3.92
Shyness-Boldness	3.86
Comprehension of Positional Notation in Mathematics	3.84
Physical Development and Well-Being (Physical Education)	3.83
Punctuation	3.80
Interest Areas	3.76
Capitalization	3.75
Operations with Fractions	3.72
Science Interest and Appreciation	3.72
Knowledge of Governments	3.71

Table 3.1 (continued)

Goal	Rating
Cultural Knowledge	3.67
Measurement Reading and Making	3.66
Structural Recognition	3.65
Social Organization Knowledge	3.64
Creative Fluency	3.60
Penmanship	3.60
Oral Reading	3.60
Critical Reading	3.58
Muscle Control (Physical Education)	3.56
Knowledge of History	3.56
Operations with Decimals and Percents	3.53
Application of Scientific Methods to Everyday Life	3.52
Interest in Social Studies	3.50
Spatial Reasoning	3.44
Relational-Implicational Reasoning	3.41
Summarizing Information for Reference	3.41
Sex Education	3.36
Knowledge of Physical Geography	3.35
Spatial Memory	3.34
Observation and Description in Science	3.32
Comprehension of Number Principles	3.31
Systematic Reasoning	3.25
Hypothesis Formation in Science	3.25
Knowledge of Socio-Economic Geography	3.25
Knowledge of Scientific Facts and Terminology	3.23
Comprehension of Equations and Inequalities	3.22
Familiarity with Standard Children's Literature	3.13
The Nature and Purpose of Science	3.13
Music Appreciation	3.12
Use of Numbers and Measures in Science	3.09
Knowledge of Physical Education Apparatus and Equipment	3.08
Understanding Rules and Strategies of Sports and Games	3.02
Classificatory Reasoning	3.01
Interest and Independent Participation in Sports and Games	3.01
Experimentation in Science	3.01
Involvement in Arts and Crafts	2.99
Formulation of Generalized Conclusions in Science	2.99
Classification and Generalization in Science	2.92
Appreciation of Arts and Crafts	2.91

Table 3.1 (concluded)

Goal	Rating
Expressive Skill in Arts and Crafts	2.87
Operational Definitions in Science	2.87
Music Interest and Enjoyment	2.84
Religious Belief	2.80
Geometric Vocabulary	2.79
Geometric Facility	2.70
Statistics	2.64
Recognition of Literary Devices	2.56
Representational Skills in Arts and Crafts	2.39
Religious Knowledge	2.32
Dance (Rhythmic Response)	2.28
Span and Serial Memory	2.25
Cultural Insight through a Foreign Language	2.23
Music Knowledge	2.14
Singing	2.08
Aural Identification of Music	2.08
Musical Instrument Playing	2.04
Arts and Crafts Comprehension	2.02
Developmental Understanding of Arts and Crafts	1.90
Interest in and Application of a Foreign Language	1.87
Speaking Fluency in a Foreign Language	1.78
Oral Comprehension of a Foreign Language	1.71
Reading Comprehension of a Foreign Language	1.57
Writing Fluency in a Foreign Language	1.48

Table 3.2: Elementary School Goal Areas and Their Rated Importance

Goal Area	Mean Rating
Affective (temperament, attitudes, needs, interests)	4.29
Reading (oral, sight, comprehension, interpretation)	3.91
Language Arts (construction, reference skills)	3.87
Social Studies (history, civics, geography, sociology)	3.70
Physical Education-Health-Safety (knowledge and practice)	3.59
Mathematics (concepts, operations, applications)	3.51
Cognitive (reasoning, creativity, memory)	3.38
Science (processes, knowledge, approach)	3.19
Religion (belief, practice)	2.56
Arts and Crafts (valuing, producing, understanding)	2.51
Music (appreciation, interest, performance, understanding)	2.37
Foreign Language (skills, assimilation)	1.77

The findings are all the more striking when displayed in Table 3.2, in which the goal ratings have been averaged within major goal or curriculum areas. Once again, of course, the affective goals are highest. Some of the surprises of Table 3.2 are the relatively low ranks of mathematics (below social studies and physical education-health-safety) and of science. Such findings may indicate that our post-Sputnik priorities have changed. Not so surprising are the bottom three goal areas; art, music, and foreign language. Recent school budget cuts have frequently sounded death knells for art and music, apparently with public support, or at least tolerance, but they have less frequently eliminated foreign language instruction where it existed. People with a *Weltansicht*, of course, will say that we Americans are still our provincial and unsophisticated selves.

Differences in Priorities among Principals, Teachers, and Parents

The second important question asked from the rating data was "Do the three rater groups differ in their ratings of the educational goals?" The design employed to answer this question was a series of univariate one-way analyses of variance with three groups. The dependent variables were the set of 106 goal ratings and the set of 41 supergoal ratings. The results of this analysis can be found in Tables 3.3 and 3.4

Table 3.3: Mean Ratings and Rankings of Mean Ratings of 106 Goals for Principals, Teachers, and Parents, and Analyses of Variance of Ratings among Groups of Raters

Goal	Average Ratings			Ranks			F among Ratings
	Prncpl	Tchr	Prnt	Prncpl	Tchr	Prnt	
1A. Shyness-Boldness	4.08	4.01	3.73	23	32	40	4.53*
1B. Neuroticism-Adjustment	4.65	4.60	4.37	3	4	8	6.15**
1C. General Activity-Lethargy	4.03	4.20	3.87	28	17	31	2.50
2A. Dependence-Independence	4.33	4.41	4.15	10	11	16	3.04
2B. Hostility-Friendliness	4.22	4.44	4.16	14	8	14	2.20
2C. Socialization-Rebelliousness	4.45	4.63	4.44	7	3	6	.25
3A. School Orientation	4.51	4.54	4.48	5	7	3	13.12**
3B. Self-Esteem	4.86	4.75	4.54	1	1	1	1.31
4A. Need Achievement	4.61	4.59	4.48	4	5	2	1.05
4B. Intcrest Areas	3.72	3.88	3.70	41	39	43	.37
5A. Appreciation of Arts and Crafts	2.98	3.00	2.90	78	77	78	2.39
5B. Involvement in Arts and Crafts	3.02	3.16	2.89	75	70	79	.61
6A. Representational Skill in Arts and Crafts	2.37	2.44	2.32	88	91	93	2.22
6B. Expressive Skill in Arts and Crafts	2.72	2.97	2.73	85	83	87	4.23*
7A. Arts and Crafts Comprehension	1.88	1.91	2.12	97	100	99	6.20**
7B. Developmental Understanding of Arts and Crafts	1.74	1.87	2.07	99	101	101	1.89
8A. Classificatory Reasoning	3.01	2.99	2.78	76	80	83	2.47

Table 3.3 (continued)

8B. Relational-Implicational Reasoning	3.51	3.43	3.22	52	58	66	34
8C. Systematic Reasoning	3.25	3.15	3.14	64	71	68	09
8D. Spatial Reasoning	3.38	3.42	3.41	55	59	54	66
9A. Creative Flexibility	2.98	4.08	3.97	29	28	28	42
9B. Creative Fluency	3.63	3.59	3.50	47	53	52	4.94**
10A. Span and Serial Memory	2.03	2.11	2.41	94	97	92	2.00
10B. Meaningful Memory	4.07	4.23	4.02	24	15	24	.15
10C. Spatial Memory	3.34	3.40	3.40	60	63	55	39.07**
11A. Reading Comprehension of a Foreign Language	1.14	1.38	1.76	105	105	105	29.91**
11B. Oral Comprehension of a Foreign Language	1.25	1.54	1.93	104	104	104	21.94**
11C. Speaking Fluency in a Foreign Language	1.29	1.64	1.93	103	103	103	24.42**
11D. Writing Fluency in a Foreign Language	1.14	1.31	1.66	106	106	106	3.32*
12A. Cultural Insight through a Foreign Language	1.61	2.12	2.30	101	96	94	23.05**
12B. Interest in and Application of Foreign Language	1.41	1.66	2.05	102	102	102	1.41
13A. Spelling	3.95	4.08	4.15	33	29	15	42
13B. Punctuation	3.77	3.88	3.80	39	38	37	1.24
13C. Capitalization	3.66	3.89	3.72	44	37	42	1.31
13D. Grammar and Usage	3.92	4.01	4.12	34	33	18	4.15*
13E. Penmanship	3.35	3.69	3.69	58	45	44	5.70**
13F. Written Expression	4.23	4.09	3.89	12	27	30	85
13G. Independent Application of Writing Skill	3.95	4.05	4.09	32	31	21	1.38
14A. Use of Data Sources as Reference Skill	3.97	4.15	4.13	30	23	17	1.45
14B. Summarizing Information for Reference	3.24	3.43	3.39	66	57	57	3.07*
15A. Comprehension of Numbers and Sets in Mathematics	3.71	3.93	3.99	43	36	26	20.13**
15B. Comprehension of Positional Notation in Mathematics	3.80	3.86	3.76	37	40	39	31
15C. Comprehension of Equations and Inequalities	2.92	3.17	3.07	79	69	72	1.45
15D. Comprehension of Number Principals	3.38	3.57	3.11	56	54	69	4.75*
16A. Operations with Integers	4.15	4.26	4.20	17	14	12	40
16B. Operations with Fractions	3.51	3.65	3.85	53	47	33	3.21*
16C. Operations with Decimals and Percents	3.33	3.38	3.62	61	65	47	2.56
17A. Mathematical Problem Solving	4.17	4.21	4.02	16	15	25	1.47
17B. Independent Application of Mathematical Skills	4.11	3.96	3.81	19	34	36	3.80*
18A. Geometric Facility	2.36	2.63	2.74	90	89	86	4.51*
18B. Geometric Vocabulary	2.37	2.74	2.77	89	88	84	5.03**
19A. Measurement Reading and Making	3.54	3.61	3.72	49	50	41	1.19
19B. Statistics	2.55	2.75	2.56	86	87	91	1.22
20A. Music Appreciation	3.09	3.26	3.06	73	67	73	1.65
20B. Music Interest and Enjoyment	3.13	3.06	2.68	72	75	89	6.90**
21A. Singing	2.30	2.14	2.11	92	94	100	1.31
21B. Musical Instrument Playing	1.87	1.98	2.21	98	99	96	5.86**
21C. Dance (Rhythmic Response)	2.27	2.39	2.14	93	92	98	2.16
22A. Aural Identification of Music	1.94	2.08	2.17	96	98	97	2.86
22B. Music Knowledge	2.01	2.13	2.27	95	95	95	2.66
23A. Practicing Health and Safety Principles	4.50	4.41	4.10	6	9	20	8.40**

Table 3.3 (concluded)

23B. Understanding Health and Safety Principles	4.13	4.12	4.05	18	25	23	.32
23C. Sex Education	3.42	3.42	3.27	54	60	61	.61
24A. Muscle Control (Physical Education)	3.74	3.66	3.40	40	46	56	3.94*
24B. Physical Development and Well-Being (Physical Education)	4.05	3.95	3.79	26	35	38	2.92
25A. Group Activity–Sportsmanship	4.23	4.27	4.16	13	13	67	.50
25B. Interest and Independent Participation in Sports and Games	3.20	3.00	3.03	70	78	74	1.40
26A. Understanding Rules and Strategies of Sports and Games	2.91	2.97	2.99	80	84	75	2.20
26B. Knowledge of Physical Education Apparatus and Equipment	2.89	3.00	2.98	81	79	76	.38
27A. Listening Reaction and Response to Reading	4.43	4.55	4.44	9	6	5	1.33
27B. Speaking	4.06	4.16	4.23	25	20	10	1.23
28A. Phonetic Recognition	4.09	4.18	4.22	20	18	11	.73
28B. Structural Recognition	3.53	3.79	3.53	51	43	49	2.85
29A. Oral Reading	3.34	3.56	3.86	59	55	32	6.60**
29B. Silent Reading Efficiency	4.44	4.36	4.27	8	12	9	2.20
30A. Recognition of Word Meanings	4.17	4.15	4.12	15	21	19	.14
30B. Understanding Ideational Complexes	3.97	4.09	3.84	31*	26	34	2.18
30C. Remembering Information Read	4.08	4.17	4.20	21	19	13	.63
31A. Inference Making from Reading Selections	4.04	4.15	3.95	27	22	29	1.58
31B. Recognition of Literary Devices	2.33	2.55	2.57	91	90	90	2.38
31C. Critical Reading	3.81	3.62	3.44	36	49	53	3.54*
32A. Attitude toward Reading	4.33	4.42	4.38	11	10	7	.42
32B. Attitude and Behavior Modification from Reading	4.08	4.13	4.08	22	24	22	.12
32C. Familiarity with Standard Children's Literature	2.76	3.21	3.23	84	68	64	9.21**
33. Religious Knowledge	1.73	2.21	2.70	100	93	88	20.29**
34. Religious Belief	2.38	2.77	3.28	87	86	60	8.83**
35A. Observation and Description in Science	3.31	3.42	3.23	63	61	63	1.17
35B. Use of Numbers and Measures in Science	3.08	3.09	3.08	74	73	71	.00
35C. Classification and Generalization in Science	2.77	2.97	2.86	83	82	80	1.25
35D. Hypothesis Formation in Science	3.35	3.33	2.95	57	66	77	4.31*
35E. Operational Definitions in Science	2.86	2.85	2.75	82	85	85	.45
35F. Experimentation in Science	3.20	3.08	2.79	71	74	82	4.10*
35G. Formulation of Generalized Conclusions in Science	3.24	2.99	2.80	67	81	81	4.05*
36A. Knowledge of Scientific Facts and Terminology	2.98	3.12	3.27	77	72	62	2.62
36B. The Nature and Purpose of Science	3.33	3.06	3.10	62	76	70	3.20*
37A. Science Interest and Appreciation	3.86	3.79	3.67	35	41	46	1.74
37B. Application of Scientific Methods to Life	3.71	3.63	3.34	42	48	59	4.62*
38A. Knowledge of History	3.21	3.46	3.69	69	56	45	6.63**
38B. Knowledge of Governments	3.63	3.60	3.83	46	52	35	1.80
39A. Knowledge of Physical Geography	3.25	3.41	3.37	65	62	58	.95
39B. Knowledge of Socio-Economic Geography	3.21	3.39	3.22	68	64	65	1.36
40A. Cultural Knowledge	3.63	3.78	3.59	48	44	48	1.58
40B. Social Organization Knowledge	3.66	3.79	3.51	45	42	51	2.72
41A. Research Skills in Social Sciences	3.77	4.07	3.99	38	30	27	3.17*
41B. Citizenship	4.85	4.64	4.47	2	2	4	16.58**
41C. Interest in Social Studies	3.54	3.60	3.52	50	51	50	.20

Note.—*F ratio significant at .05 level; **F ratio significant at .01 level.

The results of the univariate analyses of variance from the 106 goal ratings are rather clear. There were 21 F-ratios with probability less than

Table 3.4: Mean Ratings of 41 Goals for Principals, Teachers, and Parents, and Analyses of Variance among Groups of Raters

Goal	Principals	Teachers	Parents	Univariate F
1. Temperament—Personal	4.25	4.27	3.98	5.23**
2. Temperament—Social	4.33	4.48	4.25	3.54*
3. Attitudes	4.68	4.64	4.50	4.46*
4. Needs and Interests	4.16	4.23	4.09	1.25
5. Valuing Arts and Crafts	3.00	3.07	2.89	1.44
6. Producing Arts and Crafts	2.55	2.70	2.52	1.56
7. Understanding Arts and Crafts	1.81	1.88	2.09	6.52**
8. Reasoning	3.28	3.24	3.13	1.12
9. Creativity	3.81	3.83	3.73	.48
10. Memory	3.14	3.24	3.27	1.07
11. Foreign Language Skills	1.21	1.46	1.81	39.80**
12. Foreign Language Assimilation	1.51	1.88	2.17	25.51**
13. Language Construction	3.83	3.95	3.92	.87
14. Reference Skills	3.61	3.78	3.75	1.64
15. Arithmetic Concepts	3.45	3.62	3.47	1.46
16. Arithmetic Operations	3.66	3.76	3.88	1.91
17. Mathematical Applications	4.14	4.08	3.91	2.95
18. Geometry	2.37	2.68	2.75	4.97**
19. Measurement	3.05	3.17	3.13	.70
20. Music Appreciation and Interest	3.11	3.15	2.86	4.12*
21. Music Performance	2.14	2.16	2.15	.03
22. Music Understanding	1.98	2.10	2.21	3.64*
23. Health and Safety	4.01	3.98	3.80	3.07*
24. Physical Skills	3.89	3.80	3.59	4.46*
25. Sportsmanship	3.72	3.63	3.59	.89
26. Physical Education	2.90	2.97	2.98	.31
27. Oral-Aural Skills	4.24	4.34	4.33	.87
28. Word Recognition	3.81	3.97	3.87	1.30
29. Reading Mechanics	3.89	3.95	4.06	1.68
30. Reading Comprehension	4.07	4.13	4.05	.55
31. Reading Interpretation	3.39	3.43	3.31	.76
32. Reading Appreciation and Response	3.72	3.91	3.89	3.18*
33. Religious Knowledge	1.73	2.20	2.69	19.94**
34. Religious Belief	2.38	2.76	3.27	8.69**
35. Scientific Processes	3.11	3.10	2.92	1.96
36. Scientific Knowledge	3.16	3.08	3.18	.51
37. Scientific Approach	3.79	3.70	3.50	4.62*
38. History and Civics	3.42	3.52	3.75	4.66*
39. Geography	3.23	3.39	3.29	1.11
40. Sociology	3.64	3.78	3.54	2.57
41. Application of Social Studies	4.04	4.10	3.99	1.07

Note: *F ratio significant at .05 level
**F-ratio significant at .01 level

.01, and 17 more F-ratios with probability less than .05. With this many significant F-ratios, it would seem that there are indeed different views among principals, teachers, and parents as to the importance of educational goals. Due to limitations in the multivariate computer program employed for this set of analyses it was not possible to perform a multivariate test on the ratings of the entire set of 106 goals.

As can be seen in Table 3.4, the results of the univariate F-ratios on the 41 supergoal areas yielded much the same pattern. There were 7 F-ratios with probability less than .01, and 9 more F-ratios with probability less than .05. In addition to the univariate F-ratios, a multivariate analysis of variance was performed on these 41 ratings, which yielded a multivariate F-ratio that was also highly significant ($p < .0001$).

While the quoting of how many F-ratios are significant is all well and good, just what do these results mean? In order to get a better grasp on the situation, it was necessary to examine the mean ratings of the groups. The clearest picture emerges by inspecting differences among the 106 goals, looking particularly at those goals that yielded significant F-ratios.

Goals rated higher by principals than by parents. The goals listed below, exhibiting significant F-ratios among the rating groups, were rated higher by principals than by parents.

17B. Independent Application of Mathematical Skills
23A. Practicing Health and Safety Principles
24A. Muscle Control (Physical Education)
31C. Critical Reading
35F. Experimentation in Science
35G. Formulation of Generalized Conclusions in Science
41B. Citizenship

Principals might be influenced in their ratings by the expected costs of implementing programs, but the data do not bear this hypothesis out, particularly as 35F might be expected to involve considerable procurement and maintenance costs.

It may be more fruitful to consider reasons why parents have lower values for the above goals. It might be that many parents had difficulties understanding the learning concepts embraced by goals 17B, 31C, 35F, and 35G, as these all involve rather abstract and high-level activities. With regard to goals 23A, 24A, and 41B, the parents may feel that traditionally the schools have either not been involved or have not been successful in teaching to those areas, or that the schools ought not to be entrusted with those goals, goals which students can (should?) achieve outside the school setting.

Goals rated higher by parents than by principals. The goals listed below have been rated in just the opposite direction, with parents being the group with the highest rating and principals with the lowest ratings.

11A. Reading Comprehension of a Foreign Language
11B. Oral Comprehension of a Foreign Language
11C. Speaking Fluency in a Foreign Language
11D. Writing Fluency in a Foreign Language
12A. Cultural Insight through a Foreign Language
13D. Grammar and Usage
16B. Operations with Fractions
18A. Geometric Facility
21B. Musical Instrument Playing
29A. Oral Reading
33. Religious Knowledge
34. Religious Belief
38A. Knowledge of History

The first five goals in the list above are all in the foreign-language area. Principals probably see the additional needs for teachers, books, and materials if these goals are to be achieved, and probably are largely motivated by the increased costs involved. The same motivation probably underlies the principals' low ratings for goal 21B. Achievement of that goal would involve not only expanded instructional staff, instruments, and scores, but probably also a sound-proofed room.

Goal 16B probably indicates that many principals are aware of the debate presently brewing among mathematics curriculum developers regarding the need for fractions. The argument goes that anything (almost) that can be expressed as a fraction can be expressed as a decimal; and that fractions, in reality, are used relatively rarely. Awareness of this debate might well be expected to cause principals to reduce their values of achievement of this goal, at least for a while.

Whenever goals are rated high by parents, it seems simple and cogent to speculate and to explain the fact on the basis that the parents truly understood them, and endorsed what they understood. Usually the understood goals are traditional in nature and probably relatively unchanged since the parents themselves were elementary school students. Such may be the case for the parents' ratings of goals 13D, 18A, 29A, and 38A. Probably every parent remembers having to read aloud in class and presumes that that activity had some importance. Educators, on the other hand, probably look on such activities as means rather than as ends.

Although the two religion goals are rated low overall, the parents presumably tend to value them in the understanding that it is *their* religion that is being taught. Principals, on the other hand, are twice as cautious and much prefer not to get embroiled in the problems of teaching religion in public schools.

Goals rated highest by principals. Only one goal was rated by principals significantly higher than it was rated by both teachers and parents.

36B. The Nature and Purpose of Science

The principals' response to this goal may reflect their concern for goals that are currently enjoying national attention. There is much discussion about the values and limitations of science and how they should be taught. The currency is probably reflected in the principals' high valuation.

Goals rated lowest by principals. The goals listed below were rated significantly lower by principals than by teachers and parents.

10C. Spatial Memory
13E. Penmanship
14B. Summarizing Information for Reference
15A. Comprehension of Numbers and Sets in Mathematics
18B. Geometric Vocabulary
32C. Familiarity with Standard Childrens' Literature
41A. Research Skills in Social Science

If a generalization can be made regarding the ratings by principals, it is that they tend not to value goals that can be described as traditional. Such is the case with goals 10C, 13E, 14B, 18B, and 32C. The reasons for principals' low valuings of the remaining two goals, 15A and 41A, are more problematic. It may be that principals tend to feel that these goals are a bit advanced for elementary level children, or it may be that they see great costs both in materials and personnel training in the implementation of instruction for such goals.

Goals rated higher by teachers than by parents. Only one of the goals exhibiting significant differences among the rater groups was rated higher by teachers than by parents.

15D. Comprehension of Number Principles

The description of this goal is one of the most abstract of all goal descriptors. It is probably for this reason that parents tend not to value its achievement. It is not obviously useful to living or even living well. Teachers may feel that student achievement of this goal would solve so many of their problems in teaching math to students who seem "not to get it." While such an outlook is probably correct, it is probably true that many elementary teachers don't really understand the nature of the goal themselves and therefore probably couldn't help their students toward its achievement.

Goals rated highest by teachers. Two goals that were rated significantly higher by teachers than by principals and parents are listed below.

3A. School Orientation
6B. Expressive Skill in Arts and Crafts

It is probably not uncharitable to state that achievement of goal 3A would benefit teachers more than the other two rater groups, and hence their greater valuation of it. Students with greater school orientation will

be better behaved, more interested, and more motivated to learn. What teacher wouldn't want that? As an aside, it might be noted that parents value this goal least; and probably because the problem is not theirs, at least at the elementary level when students legally must go to school regardless of the state of their attitudes.

Achievement of goal 6B might be valued by elementary teachers for several reasons. They may feel that this is the only goal area in which students can "let go" and do what they please in a socially accepted activity. On the other hand, they may feel that the behaviors constituting this goal are at best merely urged, and any success (the success being almost totally subjectively assessable) is success easily gained.

Goals rated highest by parents. Only one goal was rated significantly higher by parents than by principals and teachers.

7A. Arts and Crafts Comprehension

While this goal was valued low by all three rater groups, the parent group assigned significantly greater value to its achievement. Perhaps the dilettante nature of the goal appealed to parents' desires to see their children climb the social ladder.

Goals rated lowest by parents. The parents rated the following goals significantly lower than the principals and the teachers.

1A. Shyness-Boldness
1B. Neuroticism-Adjustment
9B. Creative Fluency
20B. Music Interest and Enjoyment
35D. Hypothesis Formation in Science
37B. Application of Scientific Methods to Life

Although some of the goals are of great value to all the rater groups, parents may feel that achievement of some of them is not the concern of the public school. Such is the case, we hypothesize, with the first four goals of the list above. The last two goals are in the difficult-to-understand category, and we suggest that parents have not rated those goals high as they were not well understood.

While we have answered the question of whether or not the three groups agree on their ratings for each of the individual goals, as yet there has been no examination of concordance of overall ratings and rankings of the entire set of goals. That is, while we know that the groups may disagree as to the numerical ratings assigned to any one goal, do they disagree as to its relative place amongst all the other goals? The answer to this question was sought by employing correlational analysis.

Specifically, the mean ratings and rankings for each of the 106 goals, and also separately for the 41 supergoals were correlated for the three groups. The results of this analysis can be found in Tables 3.5 and 3.6. It can be seen from the very high values of these correlation coefficients

Table 3.5: Correlation of the Mean Ratings and Rankings* for 106 Goals for Three Groups of Raters

	Principals	Teachers	Parents
Principals		.985	.947
Teachers	.981		.974
Parents	.947	.972	

*Correlations based on the ratings are above the diagonal; those based on the rankings are below the diagonal.

that there is a great deal of consistency in the ratings and rankings of the goals among the three groups. There is more overall harmony between the three groups than one would have initially thought.

Table 3.6: Correlation of the Mean Ratings and Rankings* for 41 Supergoals for Three Groups of Raters

	Principals	Teachers	Parents
Principals		.973	.916
Teachers	.964		.970
Parents	.926	.974	

*Correlations based on the ratings are above the diagonal; those based on the rankings are below the diagonal.

One last question of interest is whether or not the three groups tended to rate all the goals either higher or lower than the other groups. Phrasing this another way, we are asking if any group was composed of "easy" or "hard" raters. Table 3.7 represents the mean ratings of all raters in each group and over all goals. The data indicate that teachers tended to rate the goals highest and principals tended to rate them lowest, but the differences do not appear meaningful.

Table 3.7: Mean Ratings for 106 Goals for Three Groups of Raters

Raters	Mean Rating
49 Principals	3.34
47 Teacher Groups	3.43
44 Parent Groups	3.37

Differences in Priorities Observed among Demographic Variables

In addition to looking at differential valuations of the goals by principals, teachers, and parents, we addressed the problem of what effects various demographic characteristics of schools might have on the goal valuations. The demographic characteristics and how they were distributed and scaled for the national sample are described in the previous chapter. The variables are geographic region of the country in which the school is located, the

size of school in number of students, the population density of the area in which the school is located, the racial-ethnic composition of the student body of the school (scaled in two ways; i.e., in terms of increasing percentage of minority students, and in terms of three major racial-ethnic groups of the sample), and the socio-economic status of the neighborhood in which the school is located. Table 3.8 presents a summary of the analyses of variance performed for each of the 106 goals over the variations within each demographic variable. Table 3.9 reports the summary analyses for the 41 supergoals. It should be noted that for the sake of interpretability, all the F-ratios reported are from separate univariate analyses of variance (even though a multivariate analysis might have been statistically preferable.)

Table 3.8: F-Ratios for Six Demographic Characteristics on 106 Educational Goals

					Racial-Ethnic Composition		
	Goal	Geographic Region	School Size	Population Density	Increasing Minorities	White vs. Non-White	Socio-Economic Status
1A	Shyness Boldness	1.80	1.53	0.43	0.07	0.17	.51
1B	Neuroticism Adjustment	1.77	0.35	0.11	0.33	2.87	.71
1C	General Activity Lethargy	0.81	0.08	0.92	0.61	0.15	.90
2A	Dependence Independence	1.34	1.88	0.56	0.49	0.10	.67
2B	Hostility Friendliness	0.70	0.07	0.99	1.16	1.77	.44
2C	Socialization Rebelliousness	0.45	0.26	2.65	0.75	1.02	.80
3A	School Orientation	1.93	3.26*	0.45	0.70	0.79	.54
3B	Self Esteem	1.16	0.12	0.22	0.77	0.90	.38
4A	Need Achievement	0.46	1.94	1.75	2.43	1.17	.42
4B	Interest Areas	0.54	4.25**	0.15	0.23	0.76	2.17
5A	Appreciation of Arts and Crafts	0.93	0.90	0.59	0.65	3.29*	2.13
5B	Involvement in Arts and Crafts	0.64	0.03	1.13	1.99	3.16*	1.49
6A	Representation Skill in Arts and Crafts	0.61	0.65	0.06	0.11	0.49	1.20
6B	Expressive Skill in Arts and Crafts	1.71	0.83	5.40**	3.35*	2.54	.77
7A	Arts and Crafts Comprehension	1.61	0.15	0.72	0.85	1.04	.87
7B	Developmental Understanding of Arts and Crafts	2.16	0.42	2.12	1.94	2.82	.91
8A	Classificatory Reasoning	2.25	0.07	3.10*	2.71*	3.57*	.47
8B	Relational Implicational Reasoning	2.04	1.68	3.55*	1.77	2.14	1.10
8C	Systematic Reasoning	0.95	0.62	1.73	0.91	1.45	1.82
8D	Spatial Reasoning	1.37	1.88	7.31**	3.13	4.32*	.71
9A	Creative Flexibility	0.78	0.28	1.92	0.79	0.91	1.57
9B	Creative Fluency	0.52	0.19	3.60*	0.84	1.88	1.07
10A	Span and Serial Memory	1.47	0.59	1.28	1.07	0.64	.90
10B	Meaningful Memory	2.90*	0.73	3.84*	2.79*	4.04*	1.66
10C	Spatial Memory	2.01	0.58	0.37	1.35	0.96	3.61**
11A	Reading Comprehension of a Foreign Language	1.31	0.90	2.19	2.15	1.87	.24
11B	Oral Comprehension of a Foreign Language	1.30	1.78	0.69	0.51	0.19	1.12
11C	Speaking Fluency in a Foreign Language	0.39	0.34	0.43	1.32	0.96	.61
11D	Writing Fluency in a Foreign Language	2.24	0.11	0.84	0.13	0.06	.69
12A	Cultural Insight through a Foreign Language	3.48*	2.31	2.44	3.23*	2.76	.61
12B	Interest in and Application of a Foreign Language	0.73	0.00	2.94*	1.62	1.84	.95
13A	Spelling	2.92*	0.11	2.37	1.30	1.13	.56

Table 3.8 (continued)

13B	Punctuation	2.28	0.22	3.83*	.41	1.82	1.00
13C	Capitalization	2.68*	0.31	0.68	1.21	0.16	.75
13D	Grammar and Usage	2.90*	0.01	2.94*	2.53	1.20	.67
13E	Penmanship	1.06	1.69	0.82	1.76	2.62	1.06
13F	Written Expression	0.70	2.71	0.95	1.04	0.76	3.10**
13G	Independent Application of Writing Skills	0.95	0.51	0.90	3.13*	1.34	[illegible]
14A	Use of Data Sources as Reference Skill	1.03	1.76	0.53	0.79	1.12	1.72
14B	Summarizing Information for Reference	1.64	0.16	1.44	0.71	2.57	1.29
15A	Comprehension of Numbers and Sets in Mathematics	2.99*	0.37	1.51	3.39*	1.13	1.68
15B	Comprehension of Positional Notation in Mathematics	1.72	0.55	1.91	1.03	1.95	1.80
15C	Comprehension of Equations and Inequalities in Mathematics	1.77	4.16*	2.18	0.56	2.46	3.29**
15D	Comprehension of Number Principles	0.85	2.04	1.30	0.14	2.29	1.03
16A	Operations with Integers	1.95	0.59	1.65	1.76	1.10	1.46
16B	Operations with Fractions	1.27	0.34	0.54	0.88	0.47	.43
16C	Operations with Decimals and Percents	1.80	1.15	0.83	0.65	0.55	.97
17A	Mathematical Problem Solving	0.93	2.77	0.75	2.52	4.20*	2.28*
17B	Independent Application of Mathematical Skills	1.43	2.37	0.67	0.24	0.11	1.33
18A	Geometric Facility	0.29	5.14**	1.88	0.28	2.85	.78
18B	Geometric Vocabulary	1.53	4.29*	1.74	0.20	0.76	1.44
19A	Measurement Reading and Making	2.79*	0.17	0.21	0.61	0.58	.52
19B	Statistics	0.40	1.53	1.97	1.49	3.30*	1.88
20A	Music Appreciation	1.30	1.47	0.03	0.37	0.89	1.10
20B	Music Interest and Enjoyment	0.79	0.36	0.74	1.02	2.45	1.10
21A	Singing	0.19	0.80	0.97	0.77	2.02	.27
21B	Musical Instrument Playing	1.25	6.48**	0.84	2.58	1.28	1.43
21C	Dance (Rhythmic Response)	2.12	1.29	1.06	1.61	6.99**	1.12
22A	Aural Identification of Music	0.36	0.84	0.68	0.17	2.29	.40
22B	Music Knowledge	1.24	0.53	1.70	0.90	0.20	.47
23A	Practicing Health and Safety Principles	1.52	0.02	1.84	4.48**	0.41	1.08
23B	Understanding Health and Safety Principles	0.42	0.07	0.85	3.22*	0.18	.30
23C	Sex Education	1.57	0.49	1.97	0.36	0.14	.91
24A	Muscle Control (Physical Education)	0.27	1.96	1.21	0.37	0.96	1.34
24B	Physical Development and Well-Being (Physical Education)	0.04	0.50	0.22	0.95	0.14	1.67
25A	Group Activity–Sportsmanship	0.71	0.37	2.49	0.32	0.27	.58
25B	Interest and Independent Participation in Sports and Games	1.86	2.09	0.83	0.95	0.37	2.13
26A	Understanding Rules and Strategies of Sports and Games	0.70	0.07	0.99	1.16	1.77	.50
26B	Knowledge of Physical Education Apparatus and Equipment	2.94*	0.71	1.20	0.24	1.30	1.50
27A	Listening Reaction and Response to Reading	2.43	3.41*	0.93	3.36*	4.89**	.26
27B	Speaking	0.49	0.43	0.50	2.47	1.16	.99
28A	Phonetic Recognition	0.68	0.87	1.87	1.54	1.52	1.08
28B	Structural Recognition	0.53	0.61	1.63	0.80	0.09	.31
29A	Oral Reading	1.64	0.03	1.23	1.58	1.93	1.47
29B	Silent Reading Efficiency	0.75	0.01	1.38	2.02	0.19	.96
30A	Recognition of Word Meanings	1.11	2.04	0.20	0.45	0.40	.27
30B	Understanding Ideational Complexes	1.95	1.66	3.32*	3.38*	5.02**	1.46
30C	Remembering Information Read	0.65	0.74	1.10	0.18	0.28	1.04
31A	Inference Making from Reading Selections	0.94	1.11	4.10**	0.88	0.99	.99
31B	Recognition of Literary Devices	3.32*	2.47	2.56	3.81*	4.08*	1.29
31C	Critical Reading	1.85	1.14	5.82**	2.27	3.01	1.80
32A	Attitude toward Reading	0.25	1.40	2.33	0.57	0.34	1.75
32B	Attitude and Behavior Modification from Reading	0.92	0.40	2.68*	1.12	1.94	1.38
32C	Familiarity with Standard Children's Literature	0.64	0.95	0.92	2.15	0.78	2.00
33	Religious Knowledge	0.37	1.24	3.02*	1.12	1.73	2.56*

Table 3.8 (concluded)

34.	Religious Belief	0.89	1.33	1.97	0.45	0.14	2
35A.	Observation and Description in Science	0.50	1.53	0.77	2.00	3.15*	
35B.	Use of Numbers and Measures in Science	0.25	1.32	1.51	2.38	3.24*	1
35C.	Classification and Generalization in Science	1.33	4.25*	1.72	3.41*	5.10**	
35D.	Hypothesis Formation in Science	2.91*	3.15*	5.92**	3.71*	4.91**	2
35E.	Operational Definitions in Science	0.16	1.97	3.51*	0.90	2.87	1
35F.	Experimentation in Science	2.06	1.73	3.95**	1.42	3.24*	2
35G.	Formulation of Generalized Conclusions in Science	1.82	3.52*	6.82**	3.84*	6.53**	1
36A.	Knowledge of Scientific Facts and Terminology	1.01	0.70	1.42	0.91	1.38	1
36B.	The Nature and Purpose of Science	0.66	1.41	3.14*	1.45	2.38	1
37A.	Science Interest and Appreciation	0.50	2.64	6.83**	4.21**	6.22**	4
37B.	Application of Scientific Methods to Life	0.94	0.18	0.86	0.71	0.46	
38A.	Knowledge of History	0.50	1.54	0.13	1.69	1.57	1
38B.	Knowledge of Governments	1.13	3.84*	1.53	1.53	0.33	2
39A.	Knowledge of Physical Geography	2.38	2.81	1.30	1.90	1.07	
39B.	Knowledge of Socio-Economic Geography	1.25	2.13	1.34	3.72*	1.98	1
40A.	Cultural Knowledge	2.41	1.02	1.69	1.75	1.57	1
40B.	Social Organization Knowledge	1.98	0.20	1.48	3.02*	1.70	1
41A.	Research Skills in Social Sciences	0.80	0.27	1.40	3.10*	3.36*	2
41B.	Citizenship	0.25	0.98	0.12	0.72	0.43	1
41C.	Interest in Social Studies	2.16	0.16	0.13	2.37	2.81	

*F-ratio significant at .05 level.
**F-ratio significant at .01 level.

Table 3.9: F-Ratios for Six Demographic Characteristics on 41 Supergoals

Supergoal	Geographic Region	School Size	Population Density	Racial-Ethnic Composition: Increasing Minorities	Racial-Ethnic Composition: White-Mex. Am.-Black	Socio-Economic Status
1. Temperament: Personal	2.42	0.18	0.46	0.15	0.56	0.76
2. Temperament: Social	0.95	0.31	0.49	0.33	0.47	0.56
3. Attitudes	0.48	0.99	1.08	1.01	0.92	0.31
4. Needs and Interests	0.34	0.88	1.10	1.83	1.47	1.18
5. Valuing Arts and Crafts	0.58	2.61	0.37	0.12	2.12	2.20*
6. Producing Arts and Crafts	0.21	0.33	0.19	0.72	1.69	0.85
7. Understanding Arts and Crafts	1.90	0.50	2.63	2.35	1.37	1.00
8. Reasoning	1.87	0.73	3.87*	2.65	3.97*	0.80
9. Creativity	1.17	1.04	4.88**	1.89	2.82	1.39
10. Memory	2.06	0.39	4.75**	1.94	3.09*	1.76
11. Foreign Language Skills	1.34	1.19	0.89	1.11	1.06	0.31
12. Foreign Language Assimilation	4.07**	1.07	1.57	3.79*	2.03	0.72
13. Language Construction	2.10	0.43	1.80	1.24	0.55	0.58
14. Reference Skills	1.22	1.29	0.35	2.04	1.33	1.63
15. Arithmetic Concepts	1.66	0.73	1.58	0.02	2.80	2.15

Table 3.9 (continued)

16. Arithmetic Operations	2.12	0.45	0.60	0.64	0.33	0.95
17. Mathematical Applications	1.43	3.38*	0.56	1.01	1.81	2.12
18. Geometry	0.78	4.66*	1.88	0.18	1.74	1.02
19. Measurement	0.52	0.47	1.10	1.02	2.36	1.24
20. Music Appreciation and Interest	0.34	0.71	0.19	0.25	1.57	0.93
21. Music Performance	0.66	2.41	1.05	1.57	4.76*	0.54
22. Music Understanding	0.66	0.76	1.30	0.34	0.34	0.58
23. Health and Safety	1.00	0.11	0.14	2.91*	0.23	1.00
24. Physical Skills	0.12	1.42	0.81	0.52	0.60	1.65
25. Sportsmanship	1.01	1.30	2.06	0.57	0.45	1.65
26. Physical Education	2.01	0.20	1.68	0.24	0.87	1.02
27. Oral-Aural Skills	1.46	1.75	0.43	3.76*	3.15*	0.44
28. Word Recognition	0.48	0.82	1.83	1.09	0.63	0.66
29. Reading Mechanics	0.78	3.01	1.46	1.63	1.02	1.07
30. Reading Comprehension	0.86	2.12	1.30	1.13	1.39	0.69
31. Reading Interpretation	2.84*	2.08	5.76**	2.98*	4.31*	2.13
32. Reading Appreciation and Response	0.32	0.43	2.32	1.82	1.43	1.85
33. Religious Knowledge	0.36	1.24	3.02*	1.11	1.72	2.57*
34. Religious Belief	0.89	1.33	1.96	0.45	0.14	2.49*
35. Scientific Processes	1.47	3.77*	4.62**	3.49*	6.42**	1.83
36. Scientific Knowledge	0.96	1.31	2.81*	1.32	2.59	1.41
37. Scientific Approach	0.43	1.15	2.51	1.82	2.15	2.28*
38. History and Civics	0.84	3.55*	0.69	2.09	1.17	2.40*
39. Geography	1.87	3.04	1.54	3.19*	1.67	0.80
40. Sociology	2.66*	0.50	1.95	2.56	2.03	1.63
41. Application of Social Studies	0.88	0.07	0.17	1.04	0.22	1.79

*F ratio significant at .05 level; **F ratio significant at .01 level.

We have chosen to present in further detail the significant findings of the analyses reported in Tables 3.8 and 3.9. Each of the demographic characteristics is discussed, in turn, with mean ratings presented for each demographic variation.

The influence of geographic region on priorities. The mean ratings for each of the significant goal areas and for each of the five geographic regions are presented in Table 3.10.

On those goal area ratings wherein the New England and Middle Atlantic states occupy an extreme position, the position is always at the low value. This is the case for goals 10B, 13A, 13C, 13D, 15A, and 26B. While most of these goals might be described as "rote-traditional" goals, 15A does not fit that description. It might be that people in this northeast region reject both the very old and the very new.

The South Atlantic states, to the contrary, are usually involved in high extreme ratings. These occur for 13A, 13C, and 26B, all fairly traditional goal areas. Their low ratings occur for goals 31B and 35D, and for supergoal 40. All of these goal areas can be considered as being more modern as components of elementary curricula.

Table 3.10: Significant Differences in Goal Ratings by Geographic Region

Goal		Mean Ratings				
		New England-Middle Atlantic	South Atlantic	East Central	West Central	Pacific and Mountain
10B.	Meaningful Memory	**3.97**	4.13	**4.29**	4.10	4.09
12A.	Cultural Insight through a Foreign Language	1.84	**1.70**	1.96	**2.20**	2.14
13A.	Spelling	**3.92**	**4.20**	4.14	4.10	4.03
13C.	Capitalization	**3.56**	**4.10**	3.94	3.76	3.64
13D.	Grammar and Usage	**3.75**	4.04	4.18	4.19	3.97
15A.	Comprehension of Numbers and Sets in Mathematics	**3.54**	3.96	3.95	3.9.	3.95
19A.	Measurement Reading and Making	3.43	3.47	**3.85**	3.62	3.69
26B.	Knowledge of Physical Education Apparatus and Equipment	**2.69**	**3.29**	2.94	2.90	3.09
31B.	Recognition of Literary Devices	2.41	**2.17**	2.33	**2.75**	2.57
35D.	Hypothesis Formation in Science	3.34	2.91	2.99	**3.50**	3.20
12.	Foreign Language Assimilation	1.71	**1.57**	1.77	**2.05**	1.97
31.	Reading Interpretation	3.40	3.11	3.29	**2.92**	3.43
40.	Sociology	3.62	**3.34**	3.63	3.82	3.73

Mean ratings in bold face are either highest in row or lowest in row means.

Extreme ratings from the East Central region are both at the high extreme of the value scale. The goals 10B and 19A do not share a characteristic that might be ascribed to the region. The West Central states also appear to be high raters, with the highest regional ratings for goals 12A, 31B, and 35D, all fairly non-traditional goals. Among the 41 supergoal areas, the West Central region values goal 12 most, perhaps reflecting a large component of its population of Mexican-American and Indian descent. The rating for supergoal 31 is low, but without obvious apparent reason.

The Pacific and Mountain states contribute no extreme ratings to the variations in goal valuations. Perhaps this area reflects the characteristic valuations of each other area that has contributed to its population fairly recently.

The influence of school size on priorities. The mean ratings for each of the significant goal areas and for each of the three school size groups are presented in Table 3.11.

Among the significant differences in goal valuation due to the variable of school size, almost all indicated higher valuations by larger schools. It is probably the case that larger schools have the staff and facilities to be more hopeful of attaining the goals. This hypothesis is supported by the many goals in the math and science areas, instruction for which tend to demand specialized staff and materials.

Two goals valued more highly by smaller schools than by larger ones are School Orientation and Musical Instrument Playing. Both goals involve greater student-body cohesion, which is more possible in small schools. The differences in valuations once again, therefore, can be seen to reflect what is possible; a sort of "what we can do is what we should do" approach. This comment should not be interpreted as implying that large schools do it with more success; the Equal Educational Opportunity (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966) study shows no such relationship to support that interpretation. On the other hand, the expense involved in a Musical Instrument Playing program may be beyond the reach of many small schools, and therefore all the more desirable.

The influence of population density on priorities. The mean ratings for each of the significant goal areas and for each of the four population-density groupings are presented in Table 3.12.

These data present no consistent case for goal valuations as linear functions of population density, a characteristic that could be inferred from the continuum of neighborhood types. The singularly outstanding finding is the high valuations made by the second group, residential suburbs and residential areas of cities. These areas are characterized sociologically as most socially upward mobile, with high levels of achievement aspiration and consequent high valuations for goals, particularly goals in the cognitive and science areas.

Table 3.11: Significant Differences in Goal Ratings by School Size

	Goal	School Size		
		Less than 400	400-700	More than 700
3A.	School Orientation	4.52	4.53	4.46
4B.	Interest Areas	3.83	3.65	**3.90**
15C.	Comprehension of Equations and Inequalities in Mathematics	3.04	2.91	**3.33**
18A.	Geometric Facility	2.57	2.43	**2.84**
18B.	Geometric Vocabulary	2.46	2.57	**2.90**
21B.	Musical Instrument Playing	**2.21**	1.98	1.85
27A.	Listening Reaction and Response to Reading	4.37	4.47	**4.60**
35C.	Classification and Generalization in Science	2.87	2.74	**3.10**
35D.	Hypothesis Formation in Science	3.22	3.09	**3.46**
35G.	Formulation of Generalized Conclusions in Science	3.03	2.86	**3.29**
38B.	Knowledge of Governments	3.56	3.63	**3.93**
17.	Mathematical Applications	4.03	3.98	**4.21**
18.	Geometry	2.51	2.50	**2.87**
35.	Scientific Processes	3.07	2.94	**3.23**
38.	History and Civics	3.44	3.53	**3.76**

Mean ratings in bold face are the highest-in-row means.

Table 3.12: Significant Differences in Goal Ratings by Population Density

Goal	Rural	Residential Suburb or Residential Area of a City	Small Town and Small City	Inner City
6B. Expressive Skill in Arts and Crafts	**2.84**	2.83	2.78	2.77
8A. Classificatory Reasoning	2.88	**3.05**	2.75	2.89
8B. Relational-Implicational Reasoning	3.24	**3.53**	3.18	3.43
8D. Spatial Reasoning	**3.53**	3.48	3.24	3.41
9B. Creative Fluency	3.95	**4.19**	3.77	3.83
10B. Meaningful Memory	**4.32**	4.06	4.10	4.26
12B. Interest in and Application of a Foreign Language	1.51	**1.79**	1.58	1.68
13B. Punctuation	3.90	3.69	**4.01**	3.82
13D. Grammar and Usage	**4.10**	3.94	4.09	4.07
30B. Understanding Ideational Complexes	**4.16**	4.07	3.80	3.73
31A. Inference Making from Reading Selections	4.11	**4.16**	3.82	4.15
31C. Critical Reading	3.17	3.79	3.42	**3.86**
32B. Attitude and Behavior Modification from Reading	**4.32**	4.16	3.97	3.96
33. Religious Knowledge	2.02	**2.32**	2.18	1.66
35D. Hypothesis Formation in Science	3.27	**3.43**	2.86	3.13

35E.	Operational Definitions in Science	2.66	2.95	2.61	**2.98**
35F.	Experimentation in Science	3.12	**3.19**	2.74	2.98
35G.	Formulation of Generalized Conclusions in Science	2.71	**3.26**	2.68	3.06
36B.	The Nature and Purpose of Science	3.01	**3.30**	3.00	3.07
37A.	Science Interest and Appreciation	3.58	**3.92**	3.70	3.37
8.	Reasoning	3.15	**3.35**	3.03	3.22
9.	Creativity	3.73	**3.93**	3.57	3.74
10.	Memory	**3.54**	3.17	3.15	3.46
31.	Reading Interpretation	3.24	**3.51**	3.17	3.48
33.	Religious Knowledge	2.01	**2.31**	2.18	1.66
35.	Scientific Processes	3.02	**3.18**	2.82	3.04
36.	Scientific Knowledge	3.09	**3.24**	2.99	3.06

Mean ratings in bold face are highest-in-row means.

Most like this group is the group of rural schools which frequently has the highest valuation or is second-to-the-highest group. The last two types of schools rarely exhibit the highest valuations. Where they do, there does not appear to be a compelling rationale behind them. The Equal Educational Opportunity study found mixed relationships between what it called "urbanism" and measures of academic achievement.

The influence of racial-ethnic composition on priorities. The mean ratings for each of the significant goal areas and for each of the scales of racial-ethnic composition are presented in Tables 3.13 and 3.14. Table 3.13 presents data according to the "increasing minorities" scale of composition, and Table 3.14 presents data according to the "White–Mexican American–Black" scale.

Very few linear relationships exist between the goal valuations and the percentages of minority students. The lack of linear trends is very likely due to the different natures of the different groups that have been lumped together to form our definition of "minority" for this scale. A great many of the lowest goal valuations are made by schools in the third group, 71-90 percent white. These schools may be those undergoing the greatest social and racial-ethnic change. Among the 41 supergoals, no linear trends are observed.

When the racial-ethnic composition of schools is considered in terms of the trichotomy of white/Mexican-American/black, goal valuation differences can be seen rather clearly. Goals in the sciences, mathematical problem solving, and reading understanding are valued most highly by schools predominantly white. Mexican-American schools appear to value the goal of spatial reasoning and meaningful memory most highly, and predominantly black schools value goals in the arts and crafts, meaningful memory, statistics, dance, and listening more highly. When the 41 supergoal areas are considered, the same general findings re-emerge.

The influence of socio-economic status on priorities. The outstanding finding regarding the bearing of socio-economic status of schools upon the valuing of goals is the consistency with which one group valued them low. The heterogeneous category comprised equally of white collar, blue collar, and unskilled workers rated the above goals lower in six of the ten cases and was not far from the lowest rater group in the remaining cases. No statistical test was performed to determine if this group was characterized by lower ratings overall, which might indicate a lower point of reference only. Among the 41 supergoals, four of the five are rated lowest by this group.

In five of the goals at the 106 level, and one of the five supergoals, the group valuing highest was the second group, a heterogeneous group of white collar (predominantly), professional, and blue collar workers. This

Table 3.13: Significant Differences in Goal Ratings by Racial-Ethnic Composition

Goal	98%-100% White	91%-97% White	71%-90% White	0%-70% White
6B. Expressive Skill in Arts and Crafts	**2.79**	2.82	2.85	2.85
8A. Classificatory Reasoning	3.03	2.93	2.74	**2.72**
10B. Meaningful Memory	4.10	**4.00**	4.32	4.11
12A. Cultural Insight through a Foreign Language	1.94	2.29	**1.70**	2.12
13G. Independent Application of Writing Skills	4.19	**3.86**	4.09	3.88
15A. Comprehension of Numbers and Sets in Mathematics	**3.82**	3.86	4.00	3.97
23A. Practicing Health and Safety Principles	4.40	**3.96**	4.45	4.38
23B. Understanding Health and Safety Principles	4.18	**3.81**	3.97	4.14
27A. Listening Reaction and Response to Reading	4.51	**4.21**	4.53	4.51
30B. Understanding Ideational Complexes	4.07	4.03	**3.67**	3.79
31B. Recognition of Literary Devices	2.56	2.61	**2.01**	2.38
35C. Classification and Generalization in Science	2.98	2.87	**2.44**	2.73
35D. Hypothesis Formation in Science	3.35	3.29	**2.75**	3.02
35G. Formulation of Generalized Conclusions in Science	3.1	3.19	**2.49**	2.86
37A. Science Interest and Appreciation	3.87	3.85	3.70	**3.50**
39B. Knowledge of Socio-Economic Geography	3.40	3.06	**2.96**	3.21
40B. Social Organization Knowledge	3.76	3.48	**3.32**	3.64
41A. Research Skills in Social Science	4.04	3.94	3.92	**3.64**
12. Foreign Language Assimilation	1.80	2.14	**1.61**	1.88
23. Health and Safety	3.98	**3.66**	3.90	3.99
27. Oral-Aural Skills	4.36	**4.02**	4.30	4.33
31. Reading Interpretation	3.46	3.41	**3.13**	3.25
35. Scientific Processes	3.14	3.07	**2.73**	2.91
39. Geography	3.41	**3.09**	3.10	3.21

Mean ratings in bold face are lowest in row means.

Table 3.14: Significant Differences in Goal Ratings by Racial-Ethnic Composition

	Goal	White	Mexican-American	Black
5A.	Appreciation of Arts and Crafts	2.96	2.83	**3.06**
5B.	Involvement in Arts and Crafts	3.00	2.87	**3.28**
8A.	Classificatory Reasoning	**3.01**	2.73	2.74
8D.	Spatial Reasoning	3.45	**3.72**	3.34
10B.	Meaningful Memory	4.08	**4.18**	**4.19**
17A.	Mathematical Problem Solving	**4.21**	3.81	4.08
19B.	Statistics	2.67	2.23	**2.70**
21C.	Dance (Rhythmic Response)	2.20	2.13	**2.65**
27A.	Listening Reaction and Response to Reading	4.45	4.31	**4.67**
30B.	Understanding Ideational Complexes	**4.06**	3.81	3.70
35A.	Observation and Description in Science	**3.38**	3.00	3.31
35B.	Use of Numbers and Measures in Science	**3.15**	2.81	3.01
35C.	Classification and Generalization in Science	**2.96**	2.49	2.74
35D.	Hypothesis Formation in Science	**3.34**	2.87	2.98
35F.	Experimentation in Science	**3.10**	2.65	3.02
35G.	Formulation of Generalized Conclusions in Science	**3.14**	2.46	2.95
37A.	Science Interest and Appreciation	**3.86**	3.49	3.63
8.	Reasoning	**3.30**	3.00	3.07
10.	Memory	3.16	3.31	**3.38**
21.	Music Performance	2.12	2.02	**2.39**
27.	Oral-Aural Skills	4.30	4.15	**4.45**
31.	Reading Interpretation	**3.45**	3.16	3.25
35.	Scientific Processes	**3.13**	2.68	2.98

Mean ratings in bold face are highest in row means.

Table 3.15: Significant Differences in Goal Ratings by Socio-Economic Status

Goal		Mostly professional	White collar, some professional and blue collar	Equally prof., wht clr, and blue clr.	White and blue collar	White and blue collar and unskilled	Blue collar	Unskilled and blue collar
10C.	Spatial Memory	3.44	3.07	3.13	3.33	3.40	**3.02**	**3.66**
13F.	Written Expression	4.27	**4.28**	4.24	4.16	3.87	4.16	**3.86**
15C.	Comprehension of Equations and Inequalities in Mathematics	3.47	**3.49**	3.15	2.96	**2.76**	2.78	2.91
17A.	Mathematical Problem Solving	4.36	**4.42**	4.11	4.19	**3.90**	4.21	3.98
33.	Religious Knowledge	2.15	2.28	2.03	**2.58**	**1.85**	2.28	2.13
34.	Religious Belief	2.82	2.76	2.41	**3.19**	**2.19**	2.59	2.99
35D.	Hypothesis Formation in Science	3.47	**3.78**	3.18	3.05	**3.03**	3.25	3.10
35F.	Experimentation in Science	3.18	**3.54**	2.86	2.93	**2.71**	2.97	3.08
37A.	Science Interest and Appreciation	**4.10**	4.05	3.83	3.85	3.56	**3.54**	3.62
41A.	Research Skills in Social Science	4.18	4.17	**4.21**	3.92	3.87	4.02	**3.67**
5.	Valuing Arts and Crafts	**3.22**	3.16	2.94	2.97	**2.73**	3.15	2.90
33.	Religious Knowledge	2.14	2.28	2.02	**2.58**	**1.84**	2.28	2.13
34.	Religious Belief	2.82	2.75	2.41	**3.19**	**2.19**	2.58	2.98
37.	Scientific Approach	3.89	**3.95**	3.69	3.66	**3.48**	3.58	3.57
38.	History and Civics	**3.77**	3.76	3.63	3.60	3.46	3.67	**3.33**

Mean ratings in bold face are highest and lowest in row means.

group was usually very close to the first group (mostly professional).

Inspection of socio-economic-status group mean ratings indicate a "U" shaped relationship generally holding, with the two socio-economic extremes exhibiting higher valuations than the middle groups. For the religion goals, however, this does not hold, as the white and blue collar schools (the fourth category) value the religious goals highest. With the exception of the religion goals, it appears that the highest valuations may reflect the greatest drive for excellence of children, and that drive is exhibited in the upper economic levels and also at the very lowest ones. The low-to-middle levels, surprisingly, would appear not to have such high academic aspirations for their children.

In this chapter, we have looked at the findings of a nationwide survey of the importance of elementary school educational goals. The findings were compared for differences in the priorities of principals, teachers, and parents, and were also compared for differences that might characterize certain demographically defined subsamples of the nationwide sample. Although it was fairly straight forward to present those instances in which significant differences were observed, it was far more difficult to ascribe causes or reasons for those observed differences in priority ratings. The reasons provided in this chapter are speculative, as a critical and definitive explanation could not be drawn from the data.

Chapter IV 63
IMPLICATIONS OF THE NATIONAL GOAL RATINGS

This chapter is concerned with the implications of the national goal ratings. It begins with a brief overview of needs assessment and makes a distinction between the ends orientation of needs assessment and the means concern of program planning. In terms of widespread adoption and implementation of the findings reported in the monograph, precautions related to sampling, analysis, and inference are raised. Some of the findings are suggested as guidelines in the determination of priorities, and the implications of the goal rating methodology and the value of differential priority setting are discussed.

Before discussing some of the specific implications of both the methodology and findings described in this monograph, it is important to make a clearer statement about what the content of the needs-assessment approach is and what it is not. The most important clarification concerns the nucleus of the approach—the set of educational goals. The goals as specified in the card-sort procedure are unique, as a set, by representing only *ends* of the education process. None of the goals refer specifically or necessarily to the means by which they will be achieved. This clear distinction is necessitated by the CSE model of evaluation wherein needs-assessment activities focus on ends and program-planning activities focus on the means to those ends.

Another way of making this distinction is to consider three levels of goals: Learner Goals, Instructional Goals, and Institutional Goals. From the perspective of the learner, the ends are the learner goals (e.g., to learn how to multiply is an end for the learner, although it may be only a means, perhaps, for society which expects him to complete tax forms correctly and spend money wisely). The means to attain the learner goals are instructional goals (e.g., Expose students to many real-life problems demanding multiplication), and institutional goals (e.g., Provide all students with the opportunity to practice multiplication at the console). There is no overwhelming reason why a needs assessment should be limited only to ends as goals, but alternative inclusions do present problems. Univocally ranking goals from sets in which some goals are ends and others are means is a difficult, if not impossible, task. For varying reasons, either means or ends may assume different degrees of importance, but it is difficult to conceive of one underlying reason for both. Needs-assessment approaches that combine both means and ends (see, for example, Phi Delta Kappa, 1972) can be expected to produce results based upon logical confusion among the several dimensions underlying the prioritization. A needs assess-

ment that prioritizes means rather than ends also results in the creation of problems. The major problem is that a consensus solution is developed where an expert solution could more easily be obtained. Choosing means (programs, materials, procedures) is probably better left to educators who know something of the options and their expected results and who, unlike the general public, have an interest in choosing them.

That expert solution to the problem of means selection is the subject of the second stage of the CSE's evaluation model, program planning. It is at the program-planning phase of evaluation in which the "hows" and "what withs" are selected in order to reach the goals as ends.

Cautions in the Interpretation of Findings

Several cautions must be raised before educators pick up the findings reported in this monograph and apply them as solutions to their schools' problems. We could categorize the cautions into those arising from sampling, analysis, and inference.

Cautions necessarily arise from the sampling underlying the reported findings because there was little control exercised over the sampling methods. Principals at the schools were asked to select parent respondents to the goal rating in a random or stratified-random manner. On the basis of informal findings, however, there is reason to believe that most of the parent sampling was a matter of ease or "convenience". Parents who were available and interested expressed their viewpoints while others, who might be less available, uninterested, or even hostile, probably had little opportunity to let their values be known. To the extent that such sampling of parents actually occurred, the finding would reflect common attitudes held by such a constituency, probably generally favorable attitudes toward education (but this is not obviously reflected in the overall mean rating of all parents, see Table 3.7). The possible distortion caused by the suspected sampling procedure leads us not to suggest that the priorities reported in this monograph reflect precisely the thinking of most contemporary Americans.

Compounding the effects of biased sampling of parents, the sampling of schools can be expected to lack complete representativeness. The original selection of schools was made to reflect only in a rough way the distribution of certain population parameters. The filling of some population gaps was accomplished by adding schools in the state of California, so that those schools were mostly inner-city and lower socio-economic schools. The relatively small involvement of many of the demographic variables in the goal ratings suggests, however, that the non-representativeness of the school sample might have only marginal effects on the overall goal ratings.

The second caution raised in the wholesale adoption and implementation of the findings arises from the methods of analysis employed. Ideally, all the possible conditions and effects should have been analyzed together

in order to obtain the type of findings reported in this monograph. The appropriate statistical design was not employed because of limitation on available computer programs and because of potential difficulties in the interpretation of all higher-order interaction findings. The authors assumed that the more piecemeal approach to analysis, both more feasible and understandable, would not fail to uncover the major findings of interest to educators. While this belief is still held, sophisticated researchers may question the comprehensiveness of the reported findings.

A final caution to be presented to educators about implementing the goal-rating findings involves problems of inferring from the findings to other cases. If the findings in this monograph were considered to reflect adequately the attitudes of the population, the problem is one of inferring from the population to individuals, subsamples, and samples within the population.

The cautions must be sounded loudest for educators wishing to make inferences to their particular school. Locating one's school on each demographic dimension and then noting the significant characteristics on each dimension and the characteristics common (if any) to all the describing dimensions, is no guarantee that the school's goal priorites have been pin-pointed. Individual school variations within all the dimensions can be sufficiently large to make any one school saliently different from the sterotypic school with similar demographic characteristics.

If the unit to which inferences are made comprises a larger segment of the national population of elementary schools, for example, a state system, many of the inferences will be more general due to the wide range of demographic descriptors appropriate for the system. Because of this, we can expect such sample inferences to be somewhat more accurate. The extreme case of such inferences would be implications for decision makers in federal programs. At this level, the validity of the inferences are limited only by inadequacies in the methods of sampling and of analysis.

On the assumption that the sampling and analysis reported in this monograph are as good or better than many others to date, it follows that priorities reported could very well serve as the priorities for the educational content of federal programs that arise from educational (not necessarily political) needs. Should the curricular-content priorities of Title I or Title III programs be based on the sensed needs of educators and parents, rather than on views of a small number of experts or lobbying groups, then the goal priorities reported in Chapter III could serve well as an initial guide to setting the priorities. Indeed, if one inspects the recent content priorities of Title I and III programs, it can be seen that in many instances they reflect the priorities as found in this report. The effects of the findings on the Title VII program are somewhat more complicated insofar as the priorities could be adopted within the program, but the program itself is somewhat questionable in terms of overall national priorities. The continuance or discontinuance of the Title VII program

is and was, however, probably based on political rather than purely educational considerations.

The procedures of the nationwide needs assessment can also be viewed as an alternative to those underlying the *National Assessment of Educational Progress* program. The NAEP needs were arrived at in the mid-sixties by limited conferences of selected teachers, administrators, and laymen interested in education and those needs then formed the base for all the assessment measures and studies. It appears (Tyler, 1970; Womer, 1968) that the assessment areas were selected as prime areas for achievement information, without any direct policy implications being taken into account. To the extent that an evaluating body (NAEP) can determine goals that have importance or relevance to all parties, the approach has validity. In the participatory approach the assumption is made that the evaluated body should be allowed considerable discretion in the determination of goals upon which it will be evaluated. The CSE approach to needs assessment adopts the participatory approach, but adds the necessity for constituent involvement in the setting of goals; both those to be taught and those to be evaluated.

Use of the Findings by Educators and Administrators

So far, we have presented the findings from the national sampling with a great many precautions regarding their wholesale and uncritical incorporation into the local decision-making processes of the educator and administrator. We have, however, gleaned some of the most singularly outstanding, and hopefully meaningful, findings from the mass of findings reported in the previous chapter. These are listed below as generalized aids to decision makers who cannot or will not determine goal priorities themselves, or who feel that some additional national-based information provides useful input into their local decision making. It can be said that these findings are those about which we have confidence and are therefore prepared to provide as generalized guidelines.

1. By and large, no matter which group rates the elementary goals, the affective goals appear to be most important to the raters. The goals of self esteem, citizenship, socialization, need achievement, school orientation, and adjustment are the top-rated goals among all the raters in the national sample. We interpret this to mean that parents and educators are concerned with the widespread phenomena of students' tuning-out and dropping-out and concern that today's children need to have stronger and more independent personalities in order to deal with an increasingly technological and impersonal world of work and living.

   If we read this message correctly, it is not telling educators to drop or disregard the basic skills, but is instead urging increased attention to affective components and goals of the curriculum. Such goals can be addressed directly by the new curricula pioneering affective edu-

cation, or indirectly by utilization of curricular methods that purport to yield affective results as a side effect of basic skill instruction. The demand is sufficiently strong that all educators and administrators should take some account of it in planning new programs or courses of study.

2. In general, similar results will be found whether the school's administrators, teachers, or parents are asked to rate the educational priorities. Relative to other rating groups, we can expect principals to stress math and science goals, teachers to stress math, affective, and art goals, and parents to stress reading, language art, math, foreign language, and religion goals and to de-stress many affective and high-order science goals.

   Even though the overall message from any rater group is similar to that from any other, there are reasons for including all three groups into the priority-setting activities of any school. The primary reason is that all the groups want to have some input into the goal-setting process, and the priority rating procedure is an obvious and apparent way for the groups to have that input.

3. In terms of deviation from the mode of priority ratings, it is probably the eastern seaboard states that deviate greatest. Relative to the other geographic areas the eastern seaboard area stressed many goals, both higher and lower. This general finding would imply that principals and administrators in the eastern seaboard area should be much more cautious in interpreting the nationwide findings; it is just too likely that their communities are different.

   On the other hand, the west coast and mountain area is the one that has the fewest unique goal ratings. Administrators in this area could have the greatest confidence in drawing meaning from the nationwide findings.

4. Administrators from small and medium-sized schools will probably be subject to fewer demand discrepant from the national findings than those from large schools. It might then follow that principals of larger schools will have a greater need to tap the values of their constituencies to find out what the high priorities are.

5. The findings indicate that schools located in rural areas and in residential areas also have constituencies that stress more goals as highly important. They will probably have to be particularly sensitive to the priorities of their constituencies. Schools in small towns and small cities appear to have fewer goals stressed as high priorities that are discrepant from the national priorities, and therefore they may rely more heavily upon the national findings.

6. Racial composition of the school's student body may also have a reliably predictable influence on goal priorities. Principals in almost

all-white schools might expect stress on science goals, while principals in largely Mexican-American schools might expect stress on cognitive goals, and principals of largely black schools might expect stress on goals of arts and crafts, cognitive, music, and reading. Since there is much overlap in the findings by racial-ethnic group, these conclusions are probably the least reliable of all the implications being drawn. An additional aspect of this unreliability may be the political bases for some of the national findings. How stable the racial-ethnic differences in goal priorities are is largely dependent upon the current state of social unrest within minority communities. It is likely that until the minority groups achieve more of their long-range goals, their educational goal valuations will be in a state of more-than-usual flux.

7. The expectable effects of socio-economic status of the school's community are a bit complex. In general, the findings indicate that schools with large proportions of professional/white collar children and with large proportions of white- and blue collar children can expect to have many goals with specific high or low valuations. It seems that these two groups of schools have the most "outspoken" constituencies in terms of valuations discrepant from the national findings. The administrator in schools with the "outspoken" constituents has a much greater need to survey his teachers and parents to find their goal priorities. Other socioeconomic-class schools are less likely to have valuations different from the national mode.

Implications of the Goal-Rating Methodology

The (Q-sort) methodology of card sorting for the determination of goal priorities, that underlies the findings reported herein, is not a new approach, but merely a modification of a standard research methodology. Its overwhelming asset is that it can achieve the end of finding consensus. Other methods of finding consensus, such as series of meetings, mail surveys, and delphi techniques, have the unfortunate characteristic of breaking down well before the findings are in.

Meetings of community members are difficult to schedule so that a cross-section of constituents can be involved. Furthermore, documentation of how goals were arrived at it is difficult at best, and the results usually appear to have been dictated by the very powers that are enlisting the help of the community members in the first place. The results of mail surveys are almost always questionable because the return rate is low and the source of the returned data is neither characterizable nor can the effects of those characteristics be accounted for. Delphi techniques, on the other hand, are rarely attempted with everyday community members, and if they were they would probably die of inertia as they so frequently do in actual practice.

In addition to the advantage that the method actually and efficiently

works as it is presently constituted, it can undergo considerable alteration and still yield dependable results. For example, if it is felt that sorting 106 cards demands too much time on the part of the raters, subdecks of cards can be randomly developed. With larger numbers of raters sorting the subdecks, priority ratings should be close to those obtained utilizing the standard procedure.

The determination of the goal priorities of a school or district was the intent of the developers of the card-sort procedure, but the procedure has several potential applications in fields of educational research as well. Longitudinal analyses of the results of the goal ratings should prove very interesting. A great deal has been said about changing educational priorities immediately after Sputnik and thereafter, but little documentation exists to show that those changing priorities were anything more than needs as felt by powerful decision makers. Periodic utilization of the goal-rating procedure would provide the interested researcher with foresightful as well as hindsightful information, based upon specified constituent groups.

Historical studies of the sort just mentioned lead also to questions of intention and manipulated changes in education priorities. Many people opposed to the participatory-democracy aspect of the goal-sorting method to establishing priorities fear that the priorities can only represent the attitudes of the lowest common denominator among the raters. This fear is commonly countered with thoughts of "educating" the constituents so that they are able to make "wise" ratings. Whether or not "educate" really means "control" or "manipulate" (or "brainwash"?) remains an open question of considerable importance. The research question of how malleable the rating frames of reference really are, and of what conditions can meaningfully influence them, surely is of interest and potential political importance.

Further research into the differential priority-setting effects of demographic differences, aside from its inherent interest, would further enable educators to utilize the findings with more confidence. Differences manifested among age groups, sex groups, and ethnic/national origin groups would also have important implications for social actions. On a broader level, comparative differences in priorities would do much to help us to understand the achievement differences recently uncovered in international studies of educational achievement.

Regardless of its methodological and research implications or values, the greatest single and obvious advantage that utilization of the procedure has for the principal or superintendent is the support that he has in the documented mandate from his constituents. Justification of program thrusts and priorities, whether to superiors or to the community, is strong when it is comprised of needs-assessment results that have legitimacy. The same logic, of course, applies to school boards who presumably represent the constituents directly. The assurance with which they make their stands can be strengthened through the goal-sort findings.

A meaningful assessment of the educational system's needs is, in the end, the base upon which all evaluation theory and methodology begin. The nature of the assessment of needs necessarily sets the limits of meaningfulness or applicability of the evaluation efforts. It is for this reason that findings like those reported in this monograph must represent real priorities for the educational endeavor. Concluding a needs assessment with student outcome goals that are specific and potentially measurable makes it possible to move easily into program-planning activities wherein more specific objectives are developed and curricular materials and instructional strategies are selected. Viewing the results of the needs assessment in this light illustrates that assessing needs not only lays the foundation for evaluation, but also for the entire educational process.

REFERENCES

Adelson, M., Alkin, M. C., Carey, C., & Helmer, O. Planning education for the future. *American Behavioral Scientist*, 1967, *10*, 1-29.

Barnes, D. Structuring communication with parents: Participation in common terms. *CSE Report* No. 82. Los Angeles: Center for the Study of Evaluation, University of California, 1972.

Barr, R. H., & Foster, B. J. *Statistics of public elementary and secondary day schools*, fall 1970. Washington: U.S. Government Printing Office, 1971.

Barr, R. H., & Scott, G. J. *Statistics of state school systems, 1967-68*. Washington: U.S. Government Printing Office, 1970.

Becker, G., Withycombe, R., Doyel, F., Miller, E., Morgan, C., DeLoretto, L., & Aldridge, B. *Elementary school principals and their schools*. Eugene, Oregon: Center for the Advanced Study of Educational Administration, 1971.

Berlak, H. Values, goals, public policy, and educational evaluation. *Review of Educational Research*, 1970, *40*, 261-278.

Center for the Study of Evaluation. *Elementary school hierarchical objectives charts*. Los Angeles: Center for the Study of Evaluation; University of California, 1970.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. *Equality of educational opportunity*. Washington: U.S. Government Printing Office, 1966.

Hoepfner, R., Bradley, P. A., Klein, S. P., & Alkin, M. C. *CSE elementary school evaluation kit: Needs assessment*. Boston: Allyn and Bacon, 1973.

Hoepfner, R., Hemenway, J., DeMuth, J., Tenopyr, M. L., Granville, A. C., Petrosko, J. M., Krakower, J., Silberstein, R., Nadeau, M. A., Boyer, E., Hill, R. S., Levin, J., Nickleach, S., Simon, A., & Thomas, J. *CSE-RBS test evaluations: Tests for higher-order cognitive, affective, and interpersonal skills*. Los Angeles: Center for the Study of Evaluation, University of California, 1972.

Hoepfner, R. Stern, C., Nummedal, S. G., Doherty, W. J., DeMuth, J., Marshall, J., Simon, L., & Gaffney, J. J. *CSE-ECRC pre-school/kindergarten test evaluations*. Los Angeles: Center for the Study of Evaluation, University of California, 1971.

Hoepfner, R., Strickland, G., Stangel, G., Jansen, P., & Patalino, M. *CSE elementary school test evaluations*. Los Angeles: Center for the Study of Evaluation, University of California, 1970.

Mehrens, W. A., & Lehmann, I. J. *Standardized tests in education*. New York: Holt, Rinehart, and Winston, 1969.

Phi Delta Kappa. *Educational goals and objectives: A model for community and professional involvement*. Bloomington, Indiana: Phi Delta Kappa, 1972.

Tyler, R. Assessment: What is it? *Educate*, September, 1970.

Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrest, L. *Unobtrusive measures: Nonreactive research in the social sciences.* Chicago: Rand McNally & Company, 1966.

Womer, F. B. Research toward national assessment. *Western regional conference of testing problems proceedings.* Princeton: Education Testing Service, 1968.